COMMONWEALTH OF VIRGINIA

HURRICANE EMERGENCY RESPONSE PLAN

Volume 5

COMMONWEALTH OF VIRGINIA
EMERGENCY OPERATIONS PLAN

JUNE 2006

RECORD OF CHANGE

Notice No.	Date of Change	Subject
1	07/14/06	Amend Annex D, Attachment 1, Tab C to incorporate 1) Virginia Code references, 2) broaden scope to include private facilities, and 3) other minor language changes.
2	08/01/06	Amend Basic Plan and Annex A to modify decision process and action timeline for phased and lane reversal evacuation.

PREFACE

The primary mission of government in an emergency is to protect the lives and property of its citizens. Regardless of how well state and federal governments are organized to provide assistance, the unpredictable nature of hurricanes and the time and space factors involved dictate that the local jurisdiction must be prepared to cope with the initial impact of a hurricane on its own.

Recognizing that routine emergency services will, by their nature, be inadequate to cope with the effects of a hurricane, it is the duty of local government to provide for the emergency expansion of its survival capabilities within the limits of available resources.

The Commonwealth of Virginia Hurricane Emergency Response Plan is an Incident Annex to the Commonwealth of Virginia Emergency Operations Plan (COVEOP) and is published as Volume 5 of the COVEOP. It has been developed to provide a sound basis for hurricane-oriented emergency programs and to establish the organizational and operational concepts and procedures designed to minimize the loss of life and property and to expedite the restoration of essential services following a major hurricane.

In the preparation of this plan, emergency duties and responsibilities have been assigned, to the extent possible, to agencies having the same or similar responsibilities in the COVEOP, Basic Plan. Where necessary, agencies should develop specific standing operating procedures (SOPs) explaining what tasks need to be performed and how they will be accomplished in an emergency situation.

This incident annex has been developed in consonance with cited references and authorities. Specific details and background from these sources are usually referenced rather than included. Agencies using this annex should, therefore, become familiar with the provisions of the Emergency Services and Disaster Laws and other volumes of the COVEOP, as well as this annex.

It is well understood that being prepared to recover from the effects of a hurricane requires constant development and revision of emergency procedures, training of staff and auxiliary personnel, and exercises to test this volume of the COVEOP. This process and the results of actual emergency response operations will allow refining and distillation of this incident annex to the COVEOP and its associated SOPs and supporting plans so that we are as well prepared as possible to cope with hurricane effects.

CONTENTS

HURRICANE EMERGENCY RESPONSE PLAN

PURPOSE

The purpose of this plan is to provide the framework to provide for an effective and coordinated response on the part of the State EOC, state agencies, coastal localities, and potential host localities in response to a tropical cyclone making, or threatening to make, landfall on the Virginia coast, especially if an evacuation of predetermined storm surge inundation areas is required in order to protect life and minimize damage to property.

AUTHORITY

This plan has been prepared in consonance with relevant plans and programs of the federal and state governments. It is issued under the authority of and in accordance with the provisions of the Commonwealth of Virginia Emergency Services and Disaster Laws of 2000, Title 44, Chapters 3.2 through 3.5, Code of Virginia (as amended).

SITUATION AND ASSUMPTIONS

A. Virginia is susceptible to all levels of tropical systems, from tropical depressions to severe Category 5 hurricanes. These tropical systems produce three major hazards: storm surge, high winds including possible tornadoes, and rainfall.

B. The vulnerable population at risk and which should be evacuated in the event of a worst-case or Category 4 hurricane is defined, for planning purposes, as those persons along the coast in the pre-identified storm surge inundation areas and those in mobile homes in coastal localities who may be at risk by hurricane force winds. The total number of these persons potentially at risk from life-threatening storm effects ranges from approximately 600,000 to 700,000, depending on tourist occupancy. Storm effects could also, of course, affect other people further inland due to high winds and localized heavy rains resulting in flash flooding. These secondary storm effects, however, are much less predictable. For additional information, see Appendix 1: Hurricane Hazards.

C. Pre-disaster warning time will vary; however, the National Weather Service will detect a hurricane in time for effective action to be taken in accordance with the provisions of this plan. The Virginia Emergency Operations Center (VEOC) and the Joint Field Office (JFO) will continue to be operable despite the effects of a hurricane. Hurricane effects on the Commonwealth will be approximately as described in the 1992 Virginia Hurricane Evacuation Study. Federal agencies and organizations will function in accordance with the National Response Plan. Local and state agencies and organizations will carry out all-hazard decisions and functions as required by the COVEOP, Volume I: Basic Plan and this hurricane-specific annex.

ORGANIZATION

A. The State Coordinator, Virginia Department of Emergency Management (VDEM), is responsible for maintaining this plan. The Virginia Department of Transportation (VDOT) will develop and maintain a sub plan for hurricane evacuation traffic control. It is the responsibility of each local government to develop and maintain emergency response plans and procedures to protect public safety and property. Coastal localities should develop and regularly test and exercise hurricane-specific plans and procedures.

B. The Governor, acting through the State Coordinator, will coordinate statewide emergency operations and will coordinate with affected coastal jurisdictions to effect evacuation and other protective actions as necessary.

C. The VEOC will maintain a storm assessment capability, based on the "decision arc" methodology (Annex A, Attachment 2) presented in the 1992 Hurricane Evacuation Study. This assessment methodology utilizes the storm tracking computer program “HURREVAC 2000”, which was developed for FEMA for use by the local emergency management jurisdictions to assist with evacuation decisions. The VEOC will be prepared to assist local jurisdictions in deciding when or if evacuation of their localities is prudent based on storm assessment.

D. The Virginia Department of Transportation (VDOT) has an established traffic control center in Virginia Beach known as the Smart Traffic Center. It will be operated by VDOT personnel, but may include liaison personnel from VDEM and other state/local agencies, as required. Its primary task will be to facilitate traffic movement in the event of a large-scale evacuation from the coastal areas. Close and direct coordination with local jurisdictions will be maintained (see Annex C).

E. Reporting, warning, notification, and communications will be in accordance with Attachment 1 to Annex A of this plan.

F. A Joint Information Center (JIC) will be established. The JIC will be staffed and operated in accordance with Annex E of this plan.

G. The state government organizational staff for emergency operations consists of personnel from the Department of Military Affairs (DMA), Department of Transportation (VDOT), Department of State Police (VSP), VDEM, the American Red Cross, and other state and private organizations as needed. On behalf of the Governor, the State Coordinator or his designee, will coordinate operations at the state level. State and local plans anticipate that the state role will be to assist and to supplement local preparedness and response activities, primarily in response to local requests for assistance. It should be noted that the imminence

and severity of the threat may require, at the Governor's discretion, a more direct and anticipatory state response that may include establishment of an advance state emergency response contingent similar to a federal Emergency Response Team (ERT).

H. Virginia has grouped and identified the state emergency response agencies into 15 Emergency Support Functions (ESFs) that parallel federal ESFs (see Appendix 5). This grouping will permit functional operational response by state agencies to a large-scale or catastrophic event with the least possible disconnects with similar federal activities. The State EOC will be responsible for the coordination of the state effort. Virginia state agencies will, upon notification by the State EOC, organize into appropriate ESFs under the State Coordinating Officer (SCO) or his deputy.

I. Upon identification of a Joint Field Office (JFO) by federal/state authorities, state agency representatives, together with the SCO and the state JIC, will transition to the JFO. Once in the JFO, each state ESF representative will work in conjunction with their federal counterpart for the duration of the disaster. Likewise, the state JIC will become part of the federal JIC. Local authorities will be encouraged to organize in a similar manner. The fundamental aim of this concept of operation is that federal, state, and local authorities should operate as a team aimed at responding to and recovering from a disaster. To facilitate this interaction, it is anticipated that federal and state representatives will be collocated in the JFO, to the maximum extent feasible.

CONCEPT OF OPERATIONS

A. This plan establishes, within the general guidance of the COVEOP, the hurricane-specific concepts and policies under which all elements of state government and its political subdivisions will operate; provides for integration of the total resources of the government and the private sector; assigns responsibilities to elements of government, quasi-government, and private entities; and sets forth standard concepts and procedures whereby all local governments can develop compatible hurricane plans and SOPs.

B. When a hurricane strikes, help may not be immediately available from the state or federal government. Local governments should, therefore, be prepared to bear the initial responsibility for hurricane response and relief as well as preparation for the arrival of a hurricane. Local plans and procedures prepared should be developed and maintained to provide for the safety and welfare of citizens until such time as outside assistance is available.

C. An effective response to a hurricane emergency is dependent on the development of plans, programs, and procedures, which will provide for (1) the rapid mobilization and effective utilization of the resources and capabilities of local government and the private sector within the affected area, (2) the effective use of support from the other political subdivisions of the

state through Statewide Mutual Aid (SMA) as well as out of state sources, and (3) responsive and effective state and federal emergency and disaster relief assistance.

D. The mission of Virginia State Government, in coordination with local governments, is to plan and prepare for a major hurricane, so as to minimize casualties and property damage and to restore conditions to normal as soon as possible after such a storm.

E. The mission of local government is to develop plans and prepare for emergency operations related to a hurricane in conformity with this plan, the COVEOP, and the Commonwealth of Virginia Emergency Services and Disaster Laws. All public officials have a legal responsibility and moral duty to ensure that their jurisdictions are prepared, to the best of their abilities, to cope with any potential disaster. Therefore, the development of emergency response capabilities and the direction and control of local emergency operations when a hurricane strikes are the direct responsibility of local governments.

F. A general action checklist is included in each functional annex to this plan. Each reflects the common framework of terminology, periods of operation, and protective actions needed for a coordinated federal/state/local response. The VEOC and coastal localities should, using this model, develop more detailed checklists for each function as needed, answering the key questions of who, what, when, and where. These checklists will serve as a guide for actions to be taken as a tropical cyclone approaches. State agencies may also need to prepare such checklists.

G. In response to a potential major disaster, DHS/FEMA and other federal agencies may, in accordance with the National Response Plan, pre-deploy personnel in order to be in position to provide an immediate disaster response, if needed.

H. This plan is, and those supporting plans developed by state agencies, should be in conformance with the National Response Plan. This conformance should address the procedures by which the state agency will interface with the Federal Government when that government is mobilizing resources and conducting activities to augment state and local response efforts. Supporting state agency plans should:

1. Identify how each Emergency Support Function (ESF) will be accomplished, designate the primary authority, and designate the support agencies.

2. Identify personnel to represent each appropriate ESF in the VEOC. These personnel must be:

   a. Knowledgeable in the field of the ESF.

   b. Given authority to make appropriate decisions and issue instructions in support of the mission of the ESF.

c. Be trained in EOC/JFO operations.

d. Be assigned in sufficient numbers to provide for 24-hours-a-day operation for at least two weeks.

I. Hurricane preparedness should be undertaken in a systematic, time-phased way. This and other pertinent publications should be periodically reviewed and updated, as necessary; personnel assignments to essential tasks should be updated; and required training (e.g., HURREVAC, SLOSH, weather terminology review) should be accomplished. Conditions of readiness of operational and decision-making organizations should be systemized. The following system is recommended as the guide for state agencies and local jurisdictions. Hurricane response plans should include detailed action checklists for each local emergency service organization and for each readiness condition, as appropriate.

Readiness Condition 5. Normal operations. Condition assumed when not in higher condition of readiness. Monitor weather systems for possible development of tropical systems. Maintain training and exercise emergency communications periodically.

Readiness Condition 4. A tropical weather system has developed which has the potential to impact the Commonwealth within 120 hours (D-five to D-three days). Complete any possible actions not accomplished from Readiness Condition 5. Begin preparatory actions such as identifying stocks of material, pre-warning emergency service personnel, etc. Continue to track the weather system. Establish contact with appropriate agencies and jurisdictions and prepare to receive DHS/FEMA staff.

Readiness Condition 3. Tropical storm force winds from a tropical weather system may impact the Commonwealth within 72 hours (D-3 to D-2 days). Complete all actions not accomplished from Readiness Condition 4. Coordinate traffic issues and determine potential for lane reversal evacuation from coastal Virginia and coordinate the level of local evacuations that may be required. Coordinate all activities with host localities in readiness of sheltering requirements. All appropriate agencies and organizations should continue to be informed of the situation.

Readiness Condition 2. Tropical storm force winds may impact the Commonwealth within 48 hours (D-2 days to D-1 day). Complete all actions not accomplished from Readiness Condition 3. Accelerate all preparedness actions for emergency and vital affected services. Maintain knowledge of storm track, size, probabilities, and decision point times. Identify worst-case decision points for evacuation and provide information to agencies and jurisdictions. Recommend agencies and jurisdictions take necessary actions in order to cope with the threat from the approaching storm and commencement of evacuation at or before decision point.

Readiness Condition 1. Tropical storm force winds may impact the Commonwealth within 24 hours (D-1 day). Complete all actions not performed from Readiness Condition 2. Evacuation decisions should have been made and evacuations should be completed prior to the arrival of tropical storm force winds. Place emergency personnel and resources into position for operations. Condition 1 should be maintained through the storm event and until the threat has receded as appropriate. Following the storm event, response and recovery operations should be undertaken as outlined elsewhere in this annex and in the State EOP, Volume 1: Basic Plan and Volume: 2: Recovery. Readiness conditions should be adjusted as necessary and appropriate.

Landfall. Period between the arrival and final departure of tropical storm force winds.

Emergency Relief Phase. Life-saving operations and the restoration of essential services. Usually ends when it is safe to allow residents to return to their homes.

J. Each state agency should designate an emergency management coordinator to develop and maintain an appropriate disaster preparedness, response, and recovery program in accordance with emergency duties and responsibilities as assigned in the State EOP. Some state agency coordinators are responsible for maintaining their respective part(s) of the State EOP.

K. Each city and county is required by the Virginia Emergency Services and Disaster Laws of 2000 to designate an emergency management director who, in turn, usually employs a coordinator and staff as needed to develop and maintain an appropriate local disaster preparedness, response, and recovery program.

L. The primary hazard to be addressed by coastal localities is the impact of a tropical cyclone with emphasis on, a major hurricane (Category 3, 4 or 5) making landfall. Coastal localities should develop and maintain a current hurricane response plan, which should be exercised and updated annually. This plan serves to supplement the required local Emergency Operations Plan (EOP) and must be compatible with state and federal disaster response plans and procedures.

M. Local governments should analyze probable effects of a hurricane strike on their ability to carry out routine functions of government, such as law enforcement, fire protection, water and wastewater service, etc. Shortfalls identified by this analysis should be identified and the extent and type of backup manpower and equipment should be predetermined so that they can be identified in advance and brought in as needed. (Examples: (1) generators to keep water and sewer lines working and (2) security personnel to deny access to damaged areas until it is safe for residents to return.)

N. Local governments should take appropriate action to declare a local emergency as authorized by the Code of Virginia, Section 44-146.21, et seq., in a timely manner so as to

implement emergency operations to protect the health and safety of persons and property. This authority confers essentially the same authority locally upon a governing body, as does the declaration of a "state of emergency" from the Governor. When supported by local ordinances, this local authority includes the authority to declare a curfew, among other stated powers.

O. The American Red Cross, will:

1. Assist local Red Cross chapters in coastal jurisdictions in the development of a disaster services plan that addresses mass care (sheltering and feeding), coordination of voluntary disaster relief agencies, and coordination with local governments.

2. Assist local Red Cross chapters in localities adjacent to primary evacuation routes with the development of plans and procedures to operate public shelters.

3. Encourage local Red Cross chapters to develop written agreements with local governments that address mass care for persons displaced either temporarily or long term from their homes due to a major hurricane.

4. Provide shelter management training through local Red Cross chapters. Provide crisis training of shelter management staffs as needed.

5. Assist with the coordination of shelter operations in coastal and host jurisdictions; provide shelter managers and staff in accordance with local written agreements; and provide administrative support for all local shelters operating under Red Cross administrative policies.

6. Perform appropriate tasks to support the following functions: Mass Care (ESF #6), Emergency Management (ESF #5), Health and Medical Services (ESF #8), and Agriculture and Natural Resources (ESF #11). Reference the National Response Plan and the COVEOP, Volume 1: Basic Plan.

P. This plan is effective for training, pre-emergency preparedness, or execution upon receipt. It is activated upon the declaration of a "state of emergency" by the Governor for a major coastal hurricane or upon notification of same made by the State Coordinator.

Q. State support to local governments and coordination of emergency operations will be accomplished through the VEOC by the State Coordinator, assisted by selected state agencies. The provision of state assistance does not replace local operational, legal, or financial responsibility and authority for disaster management.

R. Those officials responsible for implementing this plan are responsible for thoroughly familiarizing themselves and their personnel with its contents and for developing effective procedures for carrying out assigned tasks and functions. Localities or state agencies preparing plans or SOPs in support of this plan should forward copies to the State Coordinator for review and reference to assure appropriateness and compatibility. The State Coordinator is responsible for maintaining and updating this plan. Responsible officials at all levels of government should recommend improvements and changes, as they deem appropriate to the State Coordinator.

DEFINITIONS

A. Advisory - A method for disseminating hurricane and storm data to the public every six hours. Small craft warnings are released as necessary.

B. Bulletin - A public-oriented message released from the National Hurricane Center at a time other than when scheduled advisories are required. The format is somewhat variable, but will normally include a recap of warnings already in effect and salient information of a nature similar to the scheduled advisories.

C. Coastal Flood Statement - A public information message released by a regional and/or local Weather Service facility outlining/recapping/amplifying, in plain text, a given coastal flooding situation. Will normally be issued periodically during a tropical storm or hurricane event, addressing the specific surge or onset threat from high water levels. May recap watches/warnings in effect. May or may not include flood watch/warning information stemming from storm-associated rainfall.

D. Designated Hurricane Shelter – Facility designated by a locality for use as a shelter for people whose homes are threatened by storm surge flooding or whose mobile homes are subject to hurricane force winds. A shelter provides basic support services.

E. Decision Arc – A methodology used by emergency service organizations in determining the timing of needed actions as a hurricane threat approaches their area. (See Annex A).

F. Drill - An activity that tests, develops, or maintains skills in a single emergency response procedure, usually involving hands-on activity, activation of emergency communications, and use of equipment that would be used in a real emergency.

G. Eastern Daylight Time (EDT)/Eastern Daylight Savings Time (EDST)/"Quebec" Time/12340 - Artificial time zone made to adjust human affairs against the sun's passage to achieve longer evening sun. Four hours “less” than Zulu on the clock. (When it’s noon in London, it’s 8 a.m. in Richmond). (Z-4=Q) (Q+4=Z) Normally encompasses the hurricane season.

H. Eastern Standard Time (EST)/"Romeo" Time/1234R - Name for the normal (sun-correct) time zone encompassing the U. S. East Coast. Five hours "less" than Zulu on the clock (When it's noon in London, it's 7 a.m. in Richmond). (Z-5=R) (R+5=Z)

I. Evacuation Route - Road or highway designated by the Virginia Department of Transportation as a primary route for motorists evacuating from the threat of a hurricane. The routes are marked with signs that indicated "Hurricane Evacuation Route".

J. Evacuation Window - The time between the release of an evacuation advisory and when areas to be evacuated must be cleared.

K. Exercise - An activity designed to promote emergency preparedness; test or evaluate emergency operations, policies, plans, procedures, or facilities; train personnel in emergency duties; and demonstrate operational capability.

L. Federal Emergency Response Team (ERT) - (See National Response Plan or State EOP, Volume 1: Basic Plan).

M. Gale Force Winds – Sustained winds of 34 knots (39 mph) or higher.

N. Gale Warning - A condition "set" for a geographic area, and message released, that gale force winds (sustained 39-54 mph/34-47 kts) are forecast to occur. Note: separate gale warnings will not normally be released in conjunction with/in advance of a tropical storm or hurricane event. They may be locally prepared for areas on the periphery of such storms. They are normally seen as separate events associated with normal weather patterns. The boundary of gale force winds is one of the contours provided in the marine advisory, and their onset is used in the hurricane evacuation study as the closing point for evacuation; the end of the "clearance time" window.

O. Greenwich Mean/Meridian Time (GMT)/Universal Coordinated Time (UCT)/"Zulu" Time/1234Z - International reference time, the solar time in the 15-degree longitude zone centered upon Greenwich Meridian in England. Normally referenced in communications, aviation, and weather so as to provide a common reference. All time zones are identified with a letter, and this zone's letter is "Z"; "Zulu" is the International Phonetic Alphabet.

P. Host Locality – County, city or town located along one or more designated evacuation routes that has agreed to provide public shelter for evacuation from coastal localities in the event of a major hurricane.

Q. Hurricane - An intense storm with pronounced rotary circulation and constant wind speed of 74 mph/64 kts or more; hurricanes are normally named to facilitate tracking and information on their locations. (Pacific hurricanes may be called "typhoons.")

R. Hurricane Advisory - Public and public official-oriented position/forecast advisory. Issued by the National Hurricane Center, Miami, through the National Weather Service, Miami, Florida. Normally commences upon the "numbering" of a tropical depression ("TD# X") or hurricane. Sequentially numbered as issued. Note: These may precede tropical storm/hurricane watches and warnings by a significant margin. Scheduled timing will be 0900Z, 1500Z, 2100Z, and 0300Z. These advisories are public oriented, contain plain-text information (speed in mph/times local), and will normally have appended to them the "wind probabilities" table within 120 hours of landfall.

S. Hurricane Marine Advisory - Marine interest/public official-oriented advisory made from the same models and runs as the public advisory. Contains detailed positional and wind velocity data, including movement and forecast positions. Sequentially numbered to match the advisories. Released immediately following their paired advisories. Probabilities table may also be appended. Used as the input data for the "Decision Arc" HURREVAC process. Speeds in knots/times Zulu.

T. Hurricane Hazard Mitigation Plan - A document that is adopted by state and local governments and contains the policies, programs, strategies, and action(s) necessary to protect property from damages caused by hurricanes.

U. Hurricane Preparedness Program – DHS/FEMA's program to foster hurricane preparedness in high-risk, high-population areas by providing financial and technical assistance to state and local officials in conducting hurricane preparedness studies.

V. Hurricane Warning - A condition "set", and public- and official-oriented message released, once hurricane conditions are forecast to exist within 24 hours for the geographic area addressed in the warning. Might be issued prior to the 24-hour window, if severity and forecast confidence warrant.

W. Hurricane Watch - A condition "set", and public- and official-oriented message released, once hurricane conditions are forecast to exist within 36 to 24 hours for the geographic area addressed in the watch. May be issued prior to the 36-24 hour window.

X. National Incident Management System (NIMS) – DHS/FEMA's strategy to implement comprehensive emergency management, which capitalizes on commonality of functions to be performed (warning, communications, evacuation, sheltering, mass care, etc.), regardless of the hazard, and brings a greater economy of effort to the emergency preparedness posture.

Y. Intermediate Advisory - A scheduled advisory issued at 3-hour or 2-hour intervals between the four main daily advisories/marine advisories, commencing when watches or warnings have been issued associated with the subject storm. Once watches/warnings are in effect, 3-hour intervals are in effect; 2-hour intervals are issued once the storm center or hurricane eye is being "tracked" by land-based weather radar.

Z. Joint Information Center - Location where public information representatives of several agencies/localities are gathered to coordinate important information.

aa. Knots (KTS) - A knot is one nautical mile per hour. (A nautical mile = 1.15 statute miles.). Conversions: sm = nm x 1.15; nm = 0.87 x sm; mph =1.15 x kts; kts = mph x 0.87.

bb. Latitude - Surface measurement of the earth from the equator to the pole (set = 90 degrees); expressed in degrees, minutes, and seconds or degrees, minutes and tenths of minutes (e.g., 37 deg 45 min 30 sec = 37 deg 45.5 min. Handy measure on charts - one minute of latitude (not longitude) equals one nautical mile.

cc. Local Emergency Coordinator - The individual at the local level of government who is in charge at the office having primary responsibility for all matters pertaining to emergency management. Jurisdictions use various titles (such as civil defense director/coordinator, chief of emergency services, director of the disaster preparedness office, etc.) to describe this individual's job and responsibilities.

dd. Local Statement - A public information message released by a regional and/or local NWS Weather Forecast Office outlining/amplifying, in plain text, a given coastal flooding situation. Will normally be issued periodically during a tropical storm or hurricane event, addressing the specific surge or onset threat from high water levels. May recap watches/warnings in effect. May or may not included flood watch/warning information stemming from storm-associated rainfall.

ee. Longitude - Surface measurement of earth measured from Greenwich Meridian east and west for 180 degrees. Also expressed in degrees, minutes and seconds or degrees, minutes, and tenths of minutes. VEOC is at 077 deg, 31 min, 32 sec West or 77-31.5W. Distance to degree conversion is a spherical variable and there is no easy conversion.

ff. Major Hurricane - Category 3, 4, or 5 hurricane. A Category 4 storm is generally considered the worst-case scenario for latitudes as far north as Virginia.

gg. Mitigation Measure - Any action, structure, or program that reduces the risk or vulnerability of the hazard.

hh. Population Preparedness Project - The initial effort of hurricane evacuation (preparedness) study that provides for hurricane evacuation and other population preparedness elements that are to be integrated into state and local emergency operations plans (EOPs).

ii. Probabilities for Winds - A tabular listing of wind probabilities that the hurricane effects will impact the specified locations within a given window, expressed in percentages. The inclusive windows run out in increments to 120 hours. Studies of one's own location as

well as adjacent/surrounding locales can aid in the "go - no go" evacuation decision, especially if the pattern can be discerned as it shifts through the time windows. Given the mathematical inaccuracies inherent in the models, probabilities may be low for any given locale. These ranges must be kept in mind when the decision-maker performs his evaluations.

jj. Refuge of Last Resort – A facility that may be identified by the locality (at-risk or host) that can provide temporary relief from severe weather. A refuge of last resort is not intended to be designated as a “shelter” by the locality and may not be able to provide basic services such as food, accommodations for sleeping, first aid or security. It should be considered only as a probable safe haven for evacuees who are unable to clear the area until the storm passes.

kk. Risk Locality – The 19 coastal localities (cities, counties and town) identified in the “1992 Virginia Hurricane Evacuation Study” as subject to a storm surge in the event of a major hurricane and later amended to add Isle of Wight and Surry County with specific storm surge data still underdevelopment at the time of this Annex preparation.

ll. Saffir/Simpson Scale - A scale developed by Herbert Saffir, Dade County, Florida, consulting engineer, and Dr. Robert H. Simpson, former National Hurricane Center director, that projects potential hurricane damage assessments from five hurricane intensities: Category Number 1, the least damaging, through Category Number 5, the most severe storm (see Virginia Hurricane Evacuation Study or Appendix 2 to this plan).

mm. Shelter (American Red Cross) – A traditional shelter, either in a coastal locality or further inland, for people displaced by a major hurricane. May provide cots, blankets, food, comfort supplies.

nn. SLOSH - The National Weather Service's Sea, Lake, and Overland Surges from Hurricanes (SLOSH) numerical storm surge prediction model used in basins that have irregular coastlines and contain large bays or estuaries (see Virginia Hurricane Evacuation Study).

oo. Special Advisory - An unscheduled public- and official-oriented advisory issued when, in the judgment of the Hurricane Center forecasters, a significant deviation from forecasted track/speed/intensity has occurred, resulting in change of timing, intensity, or areas affected such that the status of watches and warnings may be impacted. Will normally be tagged as a “bulletin" so as to emphasize urgency/need for rapid dissemination and attention.

pp. Storm Scenario - Refers to the "Virginia Hurricane Evacuation Study,” in which there are groups of evacuation zones that will be threatened by the predicted storm surge from specific hurricane intensity categories. For localities with three storm scenarios (A, B, and C), scenario C includes all evacuation zones and is used for a Category 4 storm; scenarios B

and A delineate smaller areas and are used for lesser storms. For localities with only one storm scenario (A), it will be used for all storms requiring evacuation.

qq. Storm Surge - The increase in height of the surface of the sea caused by the forces of the storm and the slope of the continental shelf that causes the water level to rise as it approaches land.

rr. Storm Warning - A condition "set" for a geographic area, and message released, warning that storm force winds (sustained 55-73 mph/48-63 kts) are forecast to occur. Generally associated with tropical storm activity, on the periphery. May or may not be issued in advance of an expected hurricane event; unlikely to be separately issued for a tropical storm event. Normally seen in a separate event, such as a Nor'easter.

ss. Tornado Warning - Tornado detected in your area. TAKE SHELTER.

tt. Tornado Watch - Tornadoes and severe thunderstorms are possible in your area.

uu. Tropical Disturbance - A moving area of thunderstorms in the tropics.

vv. Tropical Storm Force Winds – Sustained wind speeds of 39 mph (34 knots) or higher.

ww. Tropical Storm Warning - A condition "set," and public- and official-oriented message released, once tropical storm conditions are forecast to exist within 24 hours for the geographic area addressed in the warning. Might be issued prior to the 24-hour window, if severity and forecast confidence warrant.

xx. Tropical Storm Watch – A condition "set," and public – and official – oriented message released, once tropical storm conditions are forecast to exist within 36-48 hours for the geographic area addressed in the watch. May be issued prior to the 36-24 hour window.

REFERENCES

A. Commonwealth of Virginia Emergency Operations Plan (COVEOP). Volume I: Basic Plan, Virginia Department of Emergency Management, April 2004.

B. Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended.

C. National Response Plan, Department of Homeland Security, December 2004.

D. Virginia Hurricane Evacuation Study, FEMA and U.S. Army Corps of Engineers, April 1992.

E. Department of Homeland Security, Federal emergency Management Agency Guidance for the 2006 Hurricane Season.

F. The Hampton Roads Hurricane Traffic Control Plan, Virginia Department of Transportation (2006).

G. Local Emergency Operations Plans for all of Virginia's coastal localities: Accomack County, Chesapeake City, Chincoteague Town, Gloucester County, Hampton City, Isle of Wight County, Lancaster County, Mathews County, Middlesex County, Surry County, Newport News City, Norfolk City, Northampton County, Northumberland County, Poquoson City, Portsmouth City, Richmond County, Suffolk City, Virginia Beach City, Westmoreland County, and York County.

HURRICANE EMERGENCY RESPONSE PLAN

PURPOSE

The purpose of this plan is to provide the framework to provide for an effective and coordinated response on the part of the State EOC, state agencies, coastal localities, and potential host localities in response to a tropical cyclone making, or threatening to make, landfall on the Virginia coast, especially if an evacuation of predetermined storm surge inundation areas is required in order to protect life and minimize damage to property.

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SITUATION AND ASSUMPTIONS

A. Virginia is susceptible to all levels of tropical systems, from tropical depressions to severe Category 5 hurricanes. These tropical systems produce three major hazards: storm surge, high winds including possible tornadoes, and rainfall.

B. The vulnerable population at risk and which should be evacuated in the event of a worst-case or Category 4 hurricane is defined, for planning purposes, as those persons along the coast in the pre-identified storm surge inundation areas and those in mobile homes in coastal localities who may be at risk by hurricane force winds. The total number of these persons potentially at risk from life-threatening storm effects ranges from approximately 600,000 to 700,000, depending on tourist occupancy. Storm effects could also, of course, affect other people further inland due to high winds and localized heavy rains resulting in flash flooding. These secondary storm effects, however, are much less predictable. For additional information, see Appendix 1: Hurricane Hazards.

C. Pre-disaster warning time will vary; however, the National Weather Service will detect a hurricane in time for effective action to be taken in accordance with the provisions of this plan. The Virginia Emergency Operations Center (VEOC) and the Joint Field Office (JFO) will continue to be operable despite the effects of a hurricane. Hurricane effects on the Commonwealth will be approximately as described in the 1992 Virginia Hurricane Evacuation Study. Federal agencies and organizations will function in accordance with the National Response Plan. Local and state agencies and organizations will carry out all-hazard decisions and functions as required by the COVEOP, Volume I: Basic Plan and this hurricane-specific annex.

ORGANIZATION

A. The State Coordinator, Virginia Department of Emergency Management (VDEM), is responsible for maintaining this plan. The Virginia Department of Transportation (VDOT) will develop and maintain a sub plan for hurricane evacuation traffic control. It is the responsibility of each local government to develop and maintain emergency response plans and procedures to protect public safety and property. Coastal localities should develop and regularly test and exercise hurricane-specific plans and procedures.

B. The Governor, acting through the State Coordinator, will coordinate statewide emergency operations and will coordinate with affected coastal jurisdictions to effect evacuation and other protective actions as necessary.

C. The VEOC will maintain a storm assessment capability, based on the "decision arc" methodology (Annex A, Attachment 2) presented in the 1992 Hurricane Evacuation Study. This assessment methodology utilizes the storm tracking computer program “HURREVAC 2000”, which was developed for FEMA for use by the local emergency management jurisdictions to assist with evacuation decisions. The VEOC will be prepared to assist local jurisdictions in deciding when or if evacuation of their localities is prudent based on storm assessment.

D. The Virginia Department of Transportation (VDOT) has an established traffic control center in Virginia Beach known as the Smart Traffic Center. It will be operated by VDOT personnel, but may include liaison personnel from VDEM and other state/local agencies, as required. Its primary task will be to facilitate traffic movement in the event of a large-scale evacuation from the coastal areas. Close and direct coordination with local jurisdictions will be maintained (see Annex C).

E. Reporting, warning, notification, and communications will be in accordance with Attachment 1 to Annex A of this plan.

F. A Joint Information Center (JIC) will be established. The JIC will be staffed and operated in accordance with Annex E of this plan.

G. The state government organizational staff for emergency operations consists of personnel from the Department of Military Affairs (DMA), Department of Transportation (VDOT), Department of State Police (VSP), VDEM, the American Red Cross, and other state and private organizations as needed. On behalf of the Governor, the State Coordinator or his designee, will coordinate operations at the state level. State and local plans anticipate that the state role will be to assist and to supplement local preparedness and response activities, primarily in response to local requests for assistance. It should be noted that the imminence

and severity of the threat may require, at the Governor's discretion, a more direct and anticipatory state response that may include establishment of an advance state emergency response contingent similar to a federal Emergency Response Team (ERT).

H. Virginia has grouped and identified the state emergency response agencies into 15 Emergency Support Functions (ESFs) that parallel federal ESFs (see Appendix 5). This grouping will permit functional operational response by state agencies to a large-scale or catastrophic event with the least possible disconnects with similar federal activities. The State EOC will be responsible for the coordination of the state effort. Virginia state agencies will, upon notification by the State EOC, organize into appropriate ESFs under the State Coordinating Officer (SCO) or his deputy.

I. Upon identification of a Joint Field Office (JFO) by federal/state authorities, state agency representatives, together with the SCO and the state JIC, will transition to the JFO. Once in the JFO, each state ESF representative will work in conjunction with their federal counterpart for the duration of the disaster. Likewise, the state JIC will become part of the federal JIC. Local authorities will be encouraged to organize in a similar manner. The fundamental aim of this concept of operation is that federal, state, and local authorities should operate as a team aimed at responding to and recovering from a disaster. To facilitate this interaction, it is anticipated that federal and state representatives will be collocated in the JFO, to the maximum extent feasible.

CONCEPT OF OPERATIONS

A. This plan establishes, within the general guidance of the COVEOP, the hurricane-specific concepts and policies under which all elements of state government and its political subdivisions will operate; provides for integration of the total resources of the government and the private sector; assigns responsibilities to elements of government, quasi-government, and private entities; and sets forth standard concepts and procedures whereby all local governments can develop compatible hurricane plans and SOPs.

B. When a hurricane strikes, help may not be immediately available from the state or federal government. Local governments should, therefore, be prepared to bear the initial responsibility for hurricane response and relief as well as preparation for the arrival of a hurricane. Local plans and procedures prepared should be developed and maintained to provide for the safety and welfare of citizens until such time as outside assistance is available.

C. An effective response to a hurricane emergency is dependent on the development of plans, programs, and procedures, which will provide for (1) the rapid mobilization and effective utilization of the resources and capabilities of local government and the private sector within the affected area, (2) the effective use of support from the other political subdivisions of the

state through Statewide Mutual Aid (SMA) as well as out of state sources, and (3) responsive and effective state and federal emergency and disaster relief assistance.

D. The mission of Virginia State Government, in coordination with local governments, is to plan and prepare for a major hurricane, so as to minimize casualties and property damage and to restore conditions to normal as soon as possible after such a storm.

E. The mission of local government is to develop plans and prepare for emergency operations related to a hurricane in conformity with this plan, the COVEOP, and the Commonwealth of Virginia Emergency Services and Disaster Laws. All public officials have a legal responsibility and moral duty to ensure that their jurisdictions are prepared, to the best of their abilities, to cope with any potential disaster. Therefore, the development of emergency response capabilities and the direction and control of local emergency operations when a hurricane strikes are the direct responsibility of local governments.

F. A general action checklist is included in each functional annex to this plan. Each reflects the common framework of terminology, periods of operation, and protective actions needed for a coordinated federal/state/local response. The VEOC and coastal localities should, using this model, develop more detailed checklists for each function as needed, answering the key questions of who, what, when, and where. These checklists will serve as a guide for actions to be taken as a tropical cyclone approaches. State agencies may also need to prepare such checklists.

G. In response to a potential major disaster, DHS/FEMA and other federal agencies may, in accordance with the National Response Plan, pre-deploy personnel in order to be in position to provide an immediate disaster response, if needed.

H. This plan is, and those supporting plans developed by state agencies, should be in conformance with the National Response Plan. This conformance should address the procedures by which the state agency will interface with the Federal Government when that government is mobilizing resources and conducting activities to augment state and local response efforts. Supporting state agency plans should:

1. Identify how each Emergency Support Function (ESF) will be accomplished, designate the primary authority, and designate the support agencies.

2. Identify personnel to represent each appropriate ESF in the VEOC. These personnel must be:

   a. Knowledgeable in the field of the ESF.

   b. Given authority to make appropriate decisions and issue instructions in support of the mission of the ESF.

c. Be trained in EOC/JFO operations.

d. Be assigned in sufficient numbers to provide for 24-hours-a-day operation for at least two weeks.

I. Hurricane preparedness should be undertaken in a systematic, time-phased way. This and other pertinent publications should be periodically reviewed and updated, as necessary; personnel assignments to essential tasks should be updated; and required training (e.g., HURREVAC, SLOSH, weather terminology review) should be accomplished. Conditions of readiness of operational and decision-making organizations should be systemized. The following system is recommended as the guide for state agencies and local jurisdictions. Hurricane response plans should include detailed action checklists for each local emergency service organization and for each readiness condition, as appropriate.

Readiness Condition 5. Normal operations. Condition assumed when not in higher condition of readiness. Monitor weather systems for possible development of tropical systems. Maintain training and exercise emergency communications periodically.

Readiness Condition 4. A tropical weather system has developed which has the potential to impact the Commonwealth within 120 hours (D-five to D-three days). Complete any possible actions not accomplished from Readiness Condition 5. Begin preparatory actions such as identifying stocks of material, pre-warning emergency service personnel, etc. Continue to track the weather system. Establish contact with appropriate agencies and jurisdictions and prepare to receive DHS/FEMA staff.

Readiness Condition 3. Tropical storm force winds from a tropical weather system may impact the Commonwealth within 72 hours (D-3 to D-2 days). Complete all actions not accomplished from Readiness Condition 4. Coordinate traffic issues and determine potential for lane reversal evacuation from coastal Virginia and coordinate the level of local evacuations that may be required. Coordinate all activities with host localities in readiness of sheltering requirements. All appropriate agencies and organizations should continue to be informed of the situation.

Readiness Condition 2. Tropical storm force winds may impact the Commonwealth within 48 hours (D-2 days to D-1 day). Complete all actions not accomplished from Readiness Condition 3. Accelerate all preparedness actions for emergency and vital affected services. Maintain knowledge of storm track, size, probabilities, and decision point times. Identify worst-case decision points for evacuation and provide information to agencies and jurisdictions. Recommend agencies and jurisdictions take necessary actions in order to cope with the threat from the approaching storm and commencement of evacuation at or before decision point.

Readiness Condition 1. Tropical storm force winds may impact the Commonwealth within 24 hours (D-1 day). Complete all actions not performed from Readiness Condition 2. Evacuation decisions should have been made and evacuations should be completed prior to the arrival of tropical storm force winds. Place emergency personnel and resources into position for operations. Condition 1 should be maintained through the storm event and until the threat has receded as appropriate. Following the storm event, response and recovery operations should be undertaken as outlined elsewhere in this annex and in the State EOP, Volume 1: Basic Plan and Volume: 2: Recovery. Readiness conditions should be adjusted as necessary and appropriate.

Landfall. Period between the arrival and final departure of tropical storm force winds.

Emergency Relief Phase. Life-saving operations and the restoration of essential services. Usually ends when it is safe to allow residents to return to their homes.

J. Each state agency should designate an emergency management coordinator to develop and maintain an appropriate disaster preparedness, response, and recovery program in accordance with emergency duties and responsibilities as assigned in the State EOP. Some state agency coordinators are responsible for maintaining their respective part(s) of the State EOP.

K. Each city and county is required by the Virginia Emergency Services and Disaster Laws of 2000 to designate an emergency management director who, in turn, usually employs a coordinator and staff as needed to develop and maintain an appropriate local disaster preparedness, response, and recovery program.

L. The primary hazard to be addressed by coastal localities is the impact of a tropical cyclone with emphasis on, a major hurricane (Category 3, 4 or 5) making landfall. Coastal localities should develop and maintain a current hurricane response plan, which should be exercised and updated annually. This plan serves to supplement the required local Emergency Operations Plan (EOP) and must be compatible with state and federal disaster response plans and procedures.

M. Local governments should analyze probable effects of a hurricane strike on their ability to carry out routine functions of government, such as law enforcement, fire protection, water and wastewater service, etc. Shortfalls identified by this analysis should be identified and the extent and type of backup manpower and equipment should be predetermined so that they can be identified in advance and brought in as needed. (Examples: (1) generators to keep water and sewer lines working and (2) security personnel to deny access to damaged areas until it is safe for residents to return.)

N. Local governments should take appropriate action to declare a local emergency as authorized by the Code of Virginia, Section 44-146.21, et seq., in a timely manner so as to

implement emergency operations to protect the health and safety of persons and property. This authority confers essentially the same authority locally upon a governing body, as does the declaration of a "state of emergency" from the Governor. When supported by local ordinances, this local authority includes the authority to declare a curfew, among other stated powers.

O. The American Red Cross, will:

1. Assist local Red Cross chapters in coastal jurisdictions in the development of a disaster services plan that addresses mass care (sheltering and feeding), coordination of voluntary disaster relief agencies, and coordination with local governments.

2. Assist local Red Cross chapters in localities adjacent to primary evacuation routes with the development of plans and procedures to operate public shelters.

3. Encourage local Red Cross chapters to develop written agreements with local governments that address mass care for persons displaced either temporarily or long term from their homes due to a major hurricane.

4. Provide shelter management training through local Red Cross chapters. Provide crisis training of shelter management staffs as needed.

5. Assist with the coordination of shelter operations in coastal and host jurisdictions; provide shelter managers and staff in accordance with local written agreements; and provide administrative support for all local shelters operating under Red Cross administrative policies.

6. Perform appropriate tasks to support the following functions: Mass Care (ESF #6), Emergency Management (ESF #5), Health and Medical Services (ESF #8), and Agriculture and Natural Resources (ESF #11). Reference the National Response Plan and the COVEOP, Volume 1: Basic Plan.

P. This plan is effective for training, pre-emergency preparedness, or execution upon receipt. It is activated upon the declaration of a "state of emergency" by the Governor for a major coastal hurricane or upon notification of same made by the State Coordinator.

Q. State support to local governments and coordination of emergency operations will be accomplished through the VEOC by the State Coordinator, assisted by selected state agencies. The provision of state assistance does not replace local operational, legal, or financial responsibility and authority for disaster management.

R. Those officials responsible for implementing this plan are responsible for thoroughly familiarizing themselves and their personnel with its contents and for developing effective procedures for carrying out assigned tasks and functions. Localities or state agencies preparing plans or SOPs in support of this plan should forward copies to the State Coordinator for review and reference to assure appropriateness and compatibility. The State Coordinator is responsible for maintaining and updating this plan. Responsible officials at all levels of government should recommend improvements and changes, as they deem appropriate to the State Coordinator.

DEFINITIONS

A. Advisory - A method for disseminating hurricane and storm data to the public every six hours. Small craft warnings are released as necessary.

B. Bulletin - A public-oriented message released from the National Hurricane Center at a time other than when scheduled advisories are required. The format is somewhat variable, but will normally include a recap of warnings already in effect and salient information of a nature similar to the scheduled advisories.

C. Coastal Flood Statement - A public information message released by a regional and/or local Weather Service facility outlining/recapping/amplifying, in plain text, a given coastal flooding situation. Will normally be issued periodically during a tropical storm or hurricane event, addressing the specific surge or onset threat from high water levels. May recap watches/warnings in effect. May or may not include flood watch/warning information stemming from storm-associated rainfall.

D. Designated Hurricane Shelter – Facility designated by a locality for use as a shelter for people whose homes are threatened by storm surge flooding or whose mobile homes are subject to hurricane force winds. A shelter provides basic support services.

E. Decision Arc – A methodology used by emergency service organizations in determining the timing of needed actions as a hurricane threat approaches their area. (See Annex A).

F. Drill - An activity that tests, develops, or maintains skills in a single emergency response procedure, usually involving hands-on activity, activation of emergency communications, and use of equipment that would be used in a real emergency.

G. Eastern Daylight Time (EDT)/Eastern Daylight Savings Time (EDST)/"Quebec" Time/12340 - Artificial time zone made to adjust human affairs against the sun's passage to achieve longer evening sun. Four hours “less” than Zulu on the clock. (When it’s noon in London, it’s 8 a.m. in Richmond). (Z-4=Q) (Q+4=Z) Normally encompasses the hurricane season.

H. Eastern Standard Time (EST)/"Romeo" Time/1234R - Name for the normal (sun-correct) time zone encompassing the U. S. East Coast. Five hours "less" than Zulu on the clock (When it's noon in London, it's 7 a.m. in Richmond). (Z-5=R) (R+5=Z)

I. Evacuation Route - Road or highway designated by the Virginia Department of Transportation as a primary route for motorists evacuating from the threat of a hurricane. The routes are marked with signs that indicated "Hurricane Evacuation Route".

J. Evacuation Window - The time between the release of an evacuation advisory and when areas to be evacuated must be cleared.

K. Exercise - An activity designed to promote emergency preparedness; test or evaluate emergency operations, policies, plans, procedures, or facilities; train personnel in emergency duties; and demonstrate operational capability.

L. Federal Emergency Response Team (ERT) - (See National Response Plan or State EOP, Volume 1: Basic Plan).

M. Gale Force Winds – Sustained winds of 34 knots (39 mph) or higher.

N. Gale Warning - A condition "set" for a geographic area, and message released, that gale force winds (sustained 39-54 mph/34-47 kts) are forecast to occur. Note: separate gale warnings will not normally be released in conjunction with/in advance of a tropical storm or hurricane event. They may be locally prepared for areas on the periphery of such storms. They are normally seen as separate events associated with normal weather patterns. The boundary of gale force winds is one of the contours provided in the marine advisory, and their onset is used in the hurricane evacuation study as the closing point for evacuation; the end of the "clearance time" window.

O. Greenwich Mean/Meridian Time (GMT)/Universal Coordinated Time (UCT)/"Zulu" Time/1234Z - International reference time, the solar time in the 15-degree longitude zone centered upon Greenwich Meridian in England. Normally referenced in communications, aviation, and weather so as to provide a common reference. All time zones are identified with a letter, and this zone's letter is "Z"; "Zulu" is the International Phonetic Alphabet.

P. Host Locality – County, city or town located along one or more designated evacuation routes that has agreed to provide public shelter for evacuation from coastal localities in the event of a major hurricane.

Q. Hurricane - An intense storm with pronounced rotary circulation and constant wind speed of 74 mph/64 kts or more; hurricanes are normally named to facilitate tracking and information on their locations. (Pacific hurricanes may be called "typhoons.")

R. Hurricane Advisory - Public and public official-oriented position/forecast advisory. Issued by the National Hurricane Center, Miami, through the National Weather Service, Miami, Florida. Normally commences upon the "numbering" of a tropical depression ("TD# X") or hurricane. Sequentially numbered as issued. Note: These may precede tropical storm/hurricane watches and warnings by a significant margin. Scheduled timing will be 0900Z, 1500Z, 2100Z, and 0300Z. These advisories are public oriented, contain plain-text information (speed in mph/times local), and will normally have appended to them the "wind probabilities" table within 120 hours of landfall.

S. Hurricane Marine Advisory - Marine interest/public official-oriented advisory made from the same models and runs as the public advisory. Contains detailed positional and wind velocity data, including movement and forecast positions. Sequentially numbered to match the advisories. Released immediately following their paired advisories. Probabilities table may also be appended. Used as the input data for the "Decision Arc" HURREVAC process. Speeds in knots/times Zulu.

T. Hurricane Hazard Mitigation Plan - A document that is adopted by state and local governments and contains the policies, programs, strategies, and action(s) necessary to protect property from damages caused by hurricanes.

U. Hurricane Preparedness Program – DHS/FEMA's program to foster hurricane preparedness in high-risk, high-population areas by providing financial and technical assistance to state and local officials in conducting hurricane preparedness studies.

V. Hurricane Warning - A condition "set", and public- and official-oriented message released, once hurricane conditions are forecast to exist within 24 hours for the geographic area addressed in the warning. Might be issued prior to the 24-hour window, if severity and forecast confidence warrant.

W. Hurricane Watch - A condition "set", and public- and official-oriented message released, once hurricane conditions are forecast to exist within 36 to 24 hours for the geographic area addressed in the watch. May be issued prior to the 36-24 hour window.

X. National Incident Management System (NIMS) – DHS/FEMA's strategy to implement comprehensive emergency management, which capitalizes on commonality of functions to be performed (warning, communications, evacuation, sheltering, mass care, etc.), regardless of the hazard, and brings a greater economy of effort to the emergency preparedness posture.

Y. Intermediate Advisory - A scheduled advisory issued at 3-hour or 2-hour intervals between the four main daily advisories/marine advisories, commencing when watches or warnings have been issued associated with the subject storm. Once watches/warnings are in effect, 3-hour intervals are in effect; 2-hour intervals are issued once the storm center or hurricane eye is being "tracked" by land-based weather radar.

Z. Joint Information Center - Location where public information representatives of several agencies/localities are gathered to coordinate important information.

aa. Knots (KTS) - A knot is one nautical mile per hour. (A nautical mile = 1.15 statute miles.). Conversions: sm = nm x 1.15; nm = 0.87 x sm; mph =1.15 x kts; kts = mph x 0.87.

bb. Latitude - Surface measurement of the earth from the equator to the pole (set = 90 degrees); expressed in degrees, minutes, and seconds or degrees, minutes and tenths of minutes (e.g., 37 deg 45 min 30 sec = 37 deg 45.5 min. Handy measure on charts - one minute of latitude (not longitude) equals one nautical mile.

cc. Local Emergency Coordinator - The individual at the local level of government who is in charge at the office having primary responsibility for all matters pertaining to emergency management. Jurisdictions use various titles (such as civil defense director/coordinator, chief of emergency services, director of the disaster preparedness office, etc.) to describe this individual's job and responsibilities.

dd. Local Statement - A public information message released by a regional and/or local NWS Weather Forecast Office outlining/amplifying, in plain text, a given coastal flooding situation. Will normally be issued periodically during a tropical storm or hurricane event, addressing the specific surge or onset threat from high water levels. May recap watches/warnings in effect. May or may not included flood watch/warning information stemming from storm-associated rainfall.

ee. Longitude - Surface measurement of earth measured from Greenwich Meridian east and west for 180 degrees. Also expressed in degrees, minutes and seconds or degrees, minutes, and tenths of minutes. VEOC is at 077 deg, 31 min, 32 sec West or 77-31.5W. Distance to degree conversion is a spherical variable and there is no easy conversion.

ff. Major Hurricane - Category 3, 4, or 5 hurricane. A Category 4 storm is generally considered the worst-case scenario for latitudes as far north as Virginia.

gg. Mitigation Measure - Any action, structure, or program that reduces the risk or vulnerability of the hazard.

hh. Population Preparedness Project - The initial effort of hurricane evacuation (preparedness) study that provides for hurricane evacuation and other population preparedness elements that are to be integrated into state and local emergency operations plans (EOPs).

ii. Probabilities for Winds - A tabular listing of wind probabilities that the hurricane effects will impact the specified locations within a given window, expressed in percentages. The inclusive windows run out in increments to 120 hours. Studies of one's own location as well as adjacent/surrounding locales can aid in the "go - no go" evacuation decision,

especially if the pattern can be discerned as it shifts through the time windows. Given the mathematical inaccuracies inherent in the models, probabilities may be low for any given locale. These ranges must be kept in mind when the decision-maker performs his evaluations.

jj. Refuge of Last Resort – A facility that may be identified by the locality (at-risk or host) that can provide temporary relief from severe weather. A refuge of last resort is not intended to be designated as a "shelter" by the locality and may not be able to provide basic services such as food, accommodations for sleeping, first aid or security. It should be considered only as a probable safe haven for evacuees who are unable to clear the area until the storm passes.

kk. Risk Locality – The 19 coastal localities (cities, counties and town) identified in the "1992 Virginia Hurricane Evacuation Study" as subject to a storm surge in the event of a major hurricane and later amended to add Isle of Wight and Surry County with specific storm surge data still underdevelopment at the time of this Annex preparation.

ll. Saffir/Simpson Scale - A scale developed by Herbert Saffir, Dade County, Florida, consulting engineer, and Dr. Robert H. Simpson, former National Hurricane Center director, that projects potential hurricane damage assessments from five hurricane intensities: Category Number 1, the least damaging, through Category Number 5, the most severe storm (see Virginia Hurricane Evacuation Study or Appendix 2 to this plan).

mm. Shelter (American Red Cross) – A traditional shelter, either in a coastal locality or further inland, for people displaced by a major hurricane. May provide cots, blankets, food, comfort supplies.

nn. SLOSH - The National Weather Service's Sea, Lake, and Overland Surges from Hurricanes (SLOSH) numerical storm surge prediction model used in basins that have irregular coastlines and contain large bays or estuaries (see Virginia Hurricane Evacuation Study).

oo. Special Advisory - An unscheduled public- and official-oriented advisory issued when, in the judgment of the Hurricane Center forecasters, a significant deviation from forecasted track/speed/intensity has occurred, resulting in change of timing, intensity, or areas affected such that the status of watches and warnings may be impacted. Will normally be tagged as a "bulletin" so as to emphasize urgency/need for rapid dissemination and attention.

pp. Storm Scenario - Refers to the "Virginia Hurricane Evacuation Study," in which there are groups of evacuation zones that will be threatened by the predicted storm surge from specific hurricane intensity categories. For localities with three storm scenarios (A, B, and C), scenario C includes all evacuation zones and is used for a Category 4 storm; scenarios B and A delineate smaller areas and are used for lesser storms. For localities with only one storm scenario (A), it will be used for all storms requiring evacuation.

qq. Storm Surge - The increase in height of the surface of the sea caused by the forces of the storm and the slope of the continental shelf that causes the water level to rise as it approaches land.

rr. Storm Warning - A condition "set" for a geographic area, and message released, warning that storm force winds (sustained 55-73 mph/48-63 kts) are forecast to occur. Generally associated with tropical storm activity, on the periphery. May or may not be issued in advance of an expected hurricane event; unlikely to be separately issued for a tropical storm event. Normally seen in a separate event, such as a Nor'easter.

ss. Tornado Warning - Tornado detected in your area. TAKE SHELTER.

tt. Tornado Watch - Tornadoes and severe thunderstorms are possible in your area.

uu. Tropical Disturbance - A moving area of thunderstorms in the tropics.

vv. Tropical Storm Force Winds – Sustained wind speeds of 39 mph (34 knots) or higher.

ww. Tropical Storm Warning - A condition "set," and public- and official-oriented message released, once tropical storm conditions are forecast to exist within 24 hours for the geographic area addressed in the warning. Might be issued prior to the 24-hour window, if severity and forecast confidence warrant.

xx. Tropical Storm Watch – A condition "set," and public – and official – oriented message released, once tropical storm conditions are forecast to exist within 36-48 hours for the geographic area addressed in the watch. May be issued prior to the 36-24 hour window.

REFERENCES

A. Commonwealth of Virginia Emergency Operations Plan (COVEOP). Volume I: Basic Plan, Virginia Department of Emergency Management, April 2004.

B. Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended.

C. National Response Plan, Department of Homeland Security, December 2004.

D. Virginia Hurricane Evacuation Study, FEMA and U.S. Army Corps of Engineers, April 1992.

E. Department of Homeland Security, Federal emergency Management Agency Guidance for the 2006 Hurricane Season.

F. The Hampton Roads Hurricane Traffic Control Plan, Virginia Department of Transportation (2006).

G. Local Emergency Operations Plans for all of Virginia's coastal localities: Accomack County, Chesapeake City, Chincoteague Town, Gloucester County, Hampton City, Isle of Wight County, Lancaster County, Mathews County, Middlesex County, Surry County, Newport News City, Norfolk City, Northampton County, Northumberland County, Poquoson City, Portsmouth City, Richmond County, Suffolk City, Virginia Beach City, Westmoreland County, and York County.

Appendix 1
HURRICANE HAZARDS

HAZARDS

The three major hazards produced by a hurricane are the storm surge, high winds including tornadoes, and rainfall. Of these, the storm surge is by far the most dangerous, historically causing nine out of ten hurricane-related deaths. The high winds of a hurricane can also have a devastating effect on persons outdoors or inside unsound structures during the passage of the storm. Finally, although rainfall usually does not directly cause death in a hurricane, it may inundate potential evacuation routes and prevent persons from evacuating areas vulnerable to the storm surge if they do not evacuate in a timely manner.

A. Storm Tides and Wave Heights

1. Storm tides and floods account for most of the deaths and much of the destruction associated with hurricanes. Much of their destructiveness results from the rapid rise of the storm tide. The storm surge is the difference between the storm-induced water level and the normal water level. The storm surge is a large dome of water often 50-100 miles wide that sweeps across the coastline near where the hurricane makes landfall. The surge of high water topped by waves is devastating. The shallower the coastal water, the higher the surge. Depending on the configuration of the shore and ocean bottom, the storm surge may reach heights of eighteen feet or more above the normal (astronomical) tide level along Virginia's coast. Many factors are involved in the formation and degree of propagation of a storm surge. These include the intensity of the hurricane, its size, its forward speed, bottom conditions where the surge comes ashore, the position or angle of the hurricane's track as it crosses the coastline, and the physical configuration of the coastline where the surge comes ashore.

2. The more intense the hurricane, the higher the surge will be. Generally, shallow water locally off a coast where the hurricane comes ashore increases the surge height. Also, the closer to perpendicular that the track of the hurricane follows in relation to the coastline, the higher the surge will be. The presence of a major bay, inlet, or river mouth where the surge comes ashore can greatly amplify the height of surge as it travels with a "funneling effect" from the bay or river mouth to the back of the bay or up the river.

3. The second important effect of the storm surge is its ability to inundate coastal roadways and areas subject to tidal flooding hours before the eye of the hurricane actually makes landfall (eye landfall). It is for this reason that all evacuation activities should be completed prior to the arrival of tropical storm force winds, 34 knots or 39 mph.

B. High Winds

1. High winds also render certain segments of the population vulnerable to the passing hurricane and those persons should be evacuated. This hazard applies to residents of structures unable to withstand the stress and uplift forces from hurricane force winds. Hurricane force winds are defined as winds with a maximum sustained velocity exceeding 74 miles per hour (mph). Hurricane winds have been recorded as high as 190 mph. The storm system may also cause tornadoes with even higher winds that, over a small area, can be even more destructive, causing extensive damage to buildings and loss of life.

2. Mobile homes are particularly susceptible to hurricane force winds. Mobile homes are necessarily of lightweight construction, with generally flat sides and ends. Because of these characteristics, the winds of hurricanes can toss mobile homes around, rolling them over and over to complete destruction. In addition, even a mobile home that is not overturned is quite vulnerable to smashing from other neighboring mobile home units rolling into it.

3. Although local regulations require that mobile homes be anchored to withstand high winds with frame tie-downs, anchorage system requirements usually are designed to withstand a wind velocity of from 70 to 110 mph. Because hurricane winds can reach 190 mph, the National Weather Service recommends that all residents of mobile homes evacuate to a more sound structure when threatened by the direct hit of a hurricane.

4. Just as with the analysis of the storm surge, the high winds hazard must not only be considered as to its predicted extent of effect, but also its timing effect. Dangerously high winds usually arrive at the coastline hours before the eye of a hurricane makes landfall. Evacuation activities cannot be safely carried out after the arrival of sustained tropical storm force winds (34 knots or 39 mph including significantly higher gusts). Therefore, all evacuees should have completed their movement to the destinations before the arrival of sustained tropical storm force winds.

C. Rainfall

1. No exact predictive tool is available for determining the rate and ultimate geographic distribution of the expected six to 12 inches of rainfall generally accompanying a hurricane. Generally, rainfall experts only project a minor influence on the transient water levels of a storm surge.

2. Rainfall in itself does not normally necessitate the emergency evacuation of large numbers of residents during the passage of a hurricane, as does the storm surge. However, it may cause the early inundation of roadways sought as evacuation routes by vehicles attempting to escape from areas vulnerable to the approaching storm surge.

Rainfall from a hurricane, if preceded by a recent wet weather period, may provide an increased risk of river flooding in areas usually not impacted by hurricanes.

3. Even though rainfall normally does not directly cause loss of life, freshwater inundation of roadways preceding hurricane eye landfall could well cause the severing of evacuation routes, adding critical hours to the overall evacuation time.

HISTORICAL HURRICANE ACTIVITY

A. Virginia has been affected by hurricanes since the early settlement days. The classification of tropical cyclones into tropical depressions, tropical storms, or hurricanes depends upon the speed of the sustained (one minute average) surface winds near the center of the system--< 33 knots, 34 to 63 knots inclusive, or > 64 knots, respectively.

B. An average of about two hurricanes each year comes close enough to affect Virginia. A hurricane has entered the state in less than half the years in the past century. The three most destructive hurricanes affecting Virginia in modern times were the August (22-23) 1933 hurricane, Hazel in October 1954, and Camille in August 1969. The August 1933 hurricane moved from the southeast and made landfall south of Norfolk and Virginia Beach. Tides in Norfolk were reported to be 9.7 feet above mean low water. There were 18 fatalities and damages of $79 million (1969 dollars) were reported. In October 1954, Hazel moved due north through central Virginia maintaining its intense circulation. Widespread damage occurred amounting to about $25 million (1969 dollars). There were 13 fatalities. The destruction caused by Camille in 1969 was largely the result of excessive rainfall (up to 27 inches), which caused flash floods and earth slides on the eastern slopes of the Blue Ridge. Damages exceeded $100 million and fatalities numbered to 151. Hurricane Floyd, September 16, 1999, tracked through coastal North Carolina in Virginia dumping 16 inches of rain on top of 10 inches received in the previous 10 day period from Hurricane Dennis causing major flooding in the City of Franklin and Southampton and Isle of Wight Counties totaling in excess of $255 million in damages. Hurricane Isabel, September 18, 2003, tracked through coastal North Carolina into Virginia delivering Category 2 surge impacts while maintaining minimal Category 1 winds at the coast. Isabel caused major power outages across the commonwealth and significant surge flooding along the lower Chesapeake Bay and its tributaries with damage totaling in excess of $ 270 million.

Appendix 2

SAFFIR-SIMPSON HURRICANE SCALE

Category One (Winds of 74-95 miles per hour)

Damage primarily to shrubbery, tree foliage, and unanchored mobile homes. No real damage to other structures. Some damage to poorly constructed signs, and/or storm surge four to five feet above normal tide level. Low-lying coastal roads inundated, minor pier damage, some small craft in exposed anchorage torn from moorings. Potential for minimal damage only**.**

Category Two (Winds of 96-110 miles per hour)

Considerable damage to shrubbery and tree foliage; some trees blown down. Major damage to exposed mobile homes. Extensive damage to poorly-constructed signs. Some damage to roofing material of buildings, and/or storm surge of six to eight feet above normal tide level. Coastal roads and low-lying escape routes inland cut by rising water two to four hours before arrival of hurricane center. Potential for moderate damage. Considerable damage to piers. Marinas flooded. Small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying areas required.

Category Three (Winds of 111 to 130 miles per hour)

Foliage torn from trees; large trees blown down. Practically all poorly-constructed signs blown down. Some damage to roofing materials of buildings; some window and door damage. Some structural damage to small buildings. Mobile homes destroyed, and/or storm surge nine to twelve feet above normal tide level. Serious flooding at coast and many small structures near coast destroyed. Potential for extensive damage. Larger structures near coast damaged by battering waves and floating debris. Major erosion of beaches. Low-lying escape routes inland cut by rising water three to five hours before hurricane center arrives. Evacuations of all residences within 500 yards of shore possibly required and of single-story residences on low ground within two miles of shore.

Category Four (Winds of 131 to 155 miles per hour)

Shrubs and trees blown down. All signs down. Extensive damage to roofing materials, windows, and doors. Complete failure of roofs on many small residences. Complete destruction of mobile homes, and/or storm surge 13 to 18 feet above normal tide level. Flat terrain 10 feet or less above sea level flooded inland as far as six miles. Potential for extreme damage**.** Major damage to lower floors of structures near shore due to flooding and battering of waves and floating debris. Major erosion of beaches. Low-lying escape routes inland cut by rising water three to five hours before hurricane center arrives. Evacuations of all residences within 500

yards of shore possibly required and of single-story residences on low ground within two miles of shore.

Category Five (Winds greater than 155 miles per hour)

Shrubs and trees blown down, considerable damage to roofs of buildings; all signs blown down. Very severe and extensive damage to windows and doors. Complete failure of roofs of many residences and industrial buildings. Extensive shattering of glass in windows and doors. Some complete destruction of mobile homes. And/or storm surge greater than 18 feet above normal tide level. Potential for catastrophic damage**.** Major damage to lower floors of all structures less than 15 feet above sea level within 500 yards of shore. Low-lying escape routes inland cut by rising water three to five hours before hurricane center arrives. Massive evacuation of residential areas on low ground within 5 to 10 miles of shore possibly required.

Notes:

1. It is important to remember that strong winds and rain will precede the arrival of the storm center several hours before actual landfall.

2. A Category 4 Hurricane is the worst-case storm anticipated to impact Virginia. The tropical and warm water conditions needed to sustain a Category 5 Hurricane generally occur only in more southern latitudes.

SAFFIR/SIMPSON HURRICANE SCALE WITH CENTRAL BAROMETRIC PRESSURE RANGES

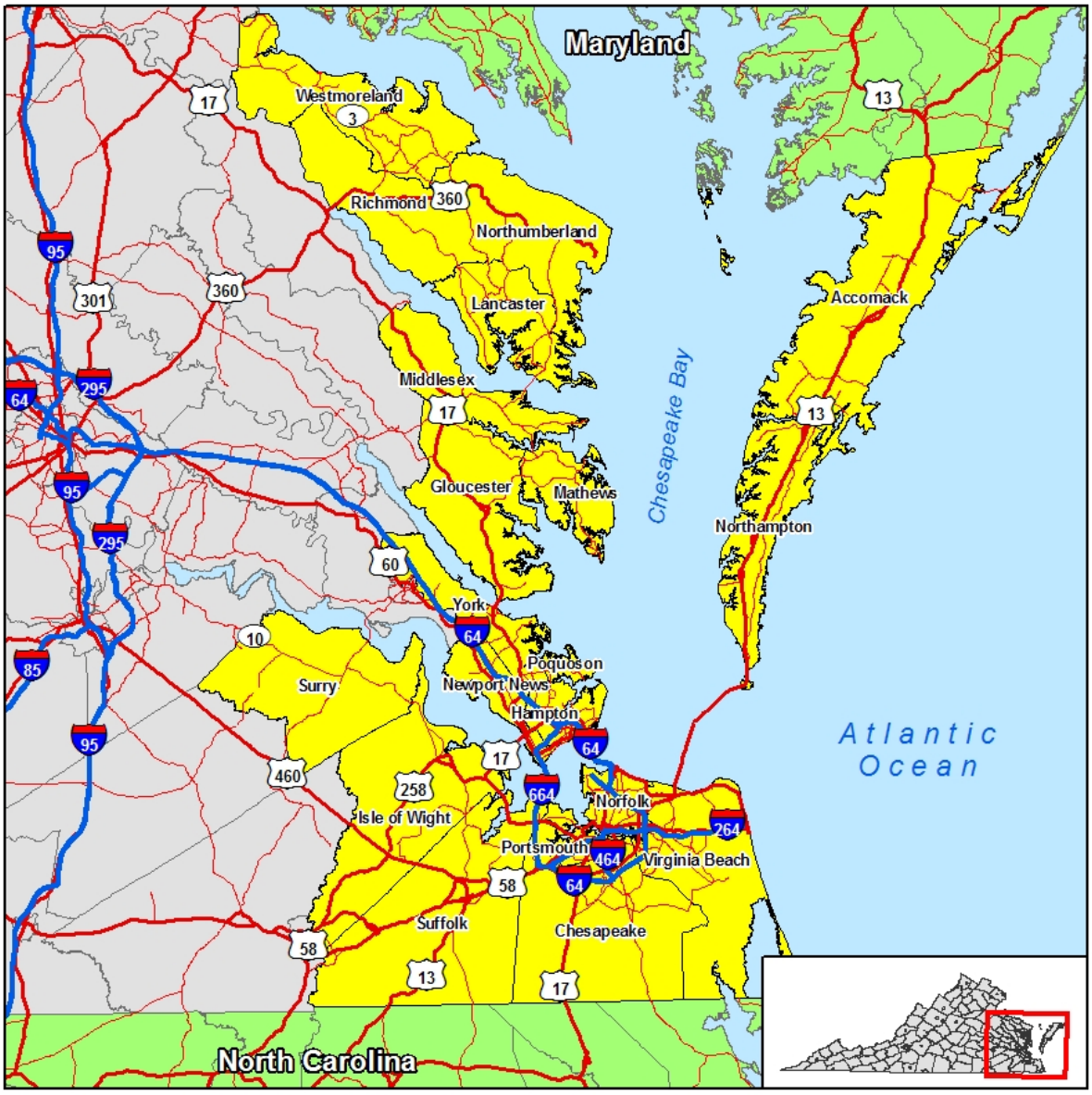
CATEGORY	WINDS (KNOTS)	WINDS (MPH)	CENTRAL PRESSURE MILLIBARS	CENTRAL PRESSURE INCHES	SURGE (FEET)*	DAMAGE
1	64 - 83	74 - 95	980+	28.94	4 – 5	MINIMAL
2	84 - 96	96 - 110	965 - 979	28.50 - 28.91	6 – 8	MODERATE
3	97 - 113	111 - 130	945 - 964	27.91 - 28.47	9 – 12	EXTENSIVE
4	114 - 135	131- 155	920 - 944	27.17 27.88	13 –18	EXTREME
5	135+	155+	-920	-27.17	18+	CATASTROPHIC

* Open Water Surge Heights

CONVERSION: 1 KNOT = 1.15 MPH
1 MPH = 0.87 KNOTS

Appendix 3

MAP OF RISK AREA



Appendix 4
SELECTED HURRICANE EVACUATION DATA*

Accomack County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Wachapreague	Chincoteague
1-2	A	10.4	19.8
3-4	B	9.1	18.9

2. VULNERABILITY - (Population: 32,300)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	High
1-2	A	13,937	13,960
3-4	B	19,173	29,196

3. EVACUATION - (See source document, Figure 6-2, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-2	A	1-10	11-30	13,940 to	7,030 to
3-4	B	1-24	25-30	29,200	12,780

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	w/ Tourist Occupancy Low	High
1-2	Rapid	6 1/2	9 1/4
	Medium	7 1/2	10
	Slow	9 1/2	11
3-4	Rapid	7 1/2	10
	Medium	8 1/4	10 1/2
	Slow	9 1/2	11 1/2

THE DATA PROVIDED IS FROM THE 1992 VIRGINIA HURRICANE EVACUATION STUDY AND WILL BE UPDATED UPON COMPLETION OF THE RESTUDY THAT IS ON GOING AT THE TIME OF THIS REVISION.

City of Chesapeake

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Deep Creek
1-2	A	3.8
3	B	9.3
4	C	15.0

2. VULNERABILITY - (Population: 140,100)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1	A	--	--	6,858
2-3	B	--	--	20,948
4	C	--	--	48,408

3. EVACUATION - (See source document, Figure 6-4, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1	A	--	1-23	6,858	2,770
2-3	B	1-6	7-23	to	to
4	C	1-15,20	16-19,21-23	48,408	19,510

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	w/ Tourist Occupancy Low	High
1	Rapid	3	4
	Medium	6	6
	Slow	9	9
2-3	Rapid	5 1/4	6 1/4
	Medium	6	7
	Slow	9	9
4	Rapid	8 1/2	9 3/4
	Medium	9 1/4	10 1/4
	Slow	10 1/4	11 1/4

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Gloucester County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Glass (Severn R.)	Yorktown
1-2	A	9.0	9.5
3-4	B	16.2	15.5

2. VULNERABILITY - (Population: 30,600)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-2	A	--	--	8,654
3-4	B	--	--	10,670

3. EVACUATION - (See source document, Figure 6-4, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-2	A	1-7	8-18	8,654 to	4,330
3-4	B	1-11	12-18	10,670	5,340

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	
1-2	Rapid	4 1/4
	Medium	6 1/4
	Slow	9 1/4
3	Rapid	8 1/2
	Medium	10 1/2
	Slow	13 1/2

THE DATA PROVIDED IS FROM THE 1992 VIRGINIA HURRICANE EVACUATION STUDY AND WILL BE UPDATED UPON COMPLETION OF THE RESTUDY THAT IS ON GOING AT THE TIME OF THIS REVISION.

City of Hampton

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Grandview	Langley AFB
1-2	A	8.3	9.1
3	B	11.6	12.7
4	C	14.6	15.8

2. VULNERABILITY - (Population: 128,100)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-2	A	--	--	40,794
3	B	--	--	44,508
4	C	--	--	76,886

3. EVACUATION - (See source document, Figure 6-9, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-2	A	1-12	13-28	40,794	15,850
3	B	1-14	15-28	to	to
4	C	1-25	26-28	76,886	29,880

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	w/ Tourist Occupancy Low	High
1-2	Rapid	9 3/4	11 1/2
	Medium	11	12 1/2
	Slow	12 3/4	14 1/2
3	Rapid	15 1/2	17
	Medium	16 1/2	18 1/4
	Slow	18 1/4	20
4	Rapid	19	21
	Medium	20 1/4	22 1/4
	Slow	22	24

THE DATA PROVIDED IS FROM THE 1992 VIRGINIA HURRICANE EVACUATION STUDY AND WILL BE UPDATED UPON COMPLETION OF THE RESTUDY THAT IS ON GOING AT THE TIME OF THIS REVISION.

Lancaster County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Windmill Point	Corrotown	Mollusk
1-4	A	9.7	11.3	10.1

2. VULNERABILITY - (Population: 11,800)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-4	A	--	--	2,140

3. EVACUATION - (See source document, Figure 6-18, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-4	A	1-4	5-10	2,140	1,170

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	
1-4	Rapid	3 1/4
	Medium	6 1/4
	Slow	9 1/4

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Mathews County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation New Point Comfort	Diggs	Gwynn Island
1-2	A	8.0	5.8	5.3
3	B	11.1	8.5	8.0
4	C	14.4	10.9	10.4

2. VULNERABILITY - (Population: 9,300)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-2	A	--	--	2,922
3	B	--	--	4,902
4	C	--	--	6,326

3. EVACUATION - (See source document, Figure 6-13, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-2	A	1-110	11-24	2,922	2,080
3	B	1-19	20-24	to	to
4	C	1-23	24	6,336	4,170

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	
1-2	Rapid	3 1/4
	Medium	6 1/4
	Slow	9 1/4
3-4	Rapid	3 1/4
	Medium	6 1/4
	Slow	9 1/4

THE DATA PROVIDED IS FROM THE 1992 VIRGINIA HURRICANE EVACUATION STUDY AND WILL BE UPDATED UPON COMPLETION OF THE RESTUDY THAT IS ON GOING AT THE TIME OF THIS REVISION.

Middlesex County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Gwynn Island (Mathews Co.)	Windmill Point (Lancaster Co.)
1-4	A	10.4	9.7

2. VULNERABILITY - (Population: 8,900)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-4	A	--	--	1,212

3. EVACUATION - (See source document, Figure 6-15, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-4	A	1-5	6-10	1,210	900

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	
1-4	Rapid	3 ¼
	Medium	6 1/4
	Slow	9 1/4

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City of Newport News

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Newport News	Newport News Shipyard
1-3	A	12.4	8.9
4	B	15.7	11.5

2. VULNERABILITY - (Population: 163,300)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-4	A	--	--	8,890
4	B	--	--	25,410

3. EVACUATION - (See source document, Figure 6-10, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-3	A	1-2	3-17	8,890 to	3,450
4	B	1-7	8-17	25,410	9,875

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	w/ Tourist Occupancy Low	High
1-2	Rapid	9 3/4	11 1/2
	Medium	10 1/2	12 1/4
	Slow	11 3/4	13 1/2
3-4	Rapid	19 1/2	21 1/2
	Medium	20 1/4	22 1/4
	Slow	21 1/2	23 1/2

THE DATA PROVIDED IS FROM THE 1992 VIRGINIA HURRICANE EVACUATION STUDY AND WILL BE UPDATED UPON COMPLETION OF THE RESTUDY THAT IS ON GOING AT THE TIME OF THIS REVISION.

City of Norfolk

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Little Creek Inlet	Willoughby Spit	Waterside
1-2	A	8.7	9.8	8.0
3	B	12.1	12.5	12.3
4	C	15.0	15.5	15.0

2. VULNERABILITY - (Population: 285,000)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	High
1-2	A	47,249	59,143
3	B	133,953	145,847
4	C	167,537	179,431

3. EVACUATION - (See source document, Figure 6-5, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-2	A	1-14	15-43	47,249	14,530
3	B	1-27	28-43	to	to
4	C	1-41	42,43	179,431	54,840

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	w/ Tourist Occupancy Low	High
1-2	Rapid	7 3/4	9 3/4
	Medium	9 1/4	11
	Slow	11 1/4	13 1/4
3	Rapid	13 3/4	15 3/4
	Medium	15	17
	Slow	17	19 1/4
4	Rapid	16 1/4	18 1/2
	Medium	17 1/2	20
	Slow	19 3/4	22

THE DATA PROVIDED IS FROM THE 1992 VIRGINIA HURRICANE EVACUATION STUDY AND WILL BE UPDATED UPON COMPLETION OF THE RESTUDY THAT IS ON GOING AT THE TIME OF THIS REVISION.

Northampton County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Capeville	Hog Island
1-2	A	10.7	10.9
3-4	B	20.1	22.6

2. VULNERABILITY - (Population: 14,800)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-2	A	--	--	2,460
3-4	B	--	--	4,930

3. EVACUATION - (See source document, Figure 6-3, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-2	A	1-6	7-17	2,460 to	1,155 to
3-4	B	1-12	13-17	4,930	2,190

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	w/ Tourist Occupancy Low	High
1-2	Rapid	6 1/2	9
	Medium	7 1/4	9 1/2
	Slow	9 3/4	10 3/4
3-4	Rapid	7 1/4	9 3/4
	Medium	8	10 1/4
	Slow	9 3/4	11 1/4

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Northumberland County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Dividing Creek	Sandy Point	Smith Point	Yeocomico River
1-4	A	10.7	9.6	7.1	8.6

2. VULNERABILITY - (Population: 10,300)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-4	A	--	--	1,336

3. EVACUATION - (See source document, Figure 6-17, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-4 A	1-4	5-11	1,340	900	

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	
1-4	Rapid	3 1/4
	Medium	6 1/4
	Slow	9 1/4

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City of Poquoson

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation
1	A	4.6
2-4	B	14.9

2. VULNERABILITY - (Population: 11,400)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1	A	--	--	4,116
2-4	B	--	--	8,412

3. EVACUATION - (See source document, Figure 6-11, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1	A	1-3	4-6	4,120 to	1,940 to
2-4	B	1-6	--	8,410	3,970

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	
1	Rapid	3
	Medium	6
	Slow	9
2-3	Rapid	4 1/2
	Medium	6
	Slow	9

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City of Portsmouth

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Elizabeth River Western Branch
1	A	4.3
2-3	B	10.9
4	C	15.0

2. VULNERABILITY - (Population: 113,800)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1	A	--	--	500
2-3	B	--	--	21,168
4	C	--	--	60,238

3. EVACUATION - (See source document, Figure 6-7, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1	A	--	1-16	500	179
2-3	B	6	7-16	to	to
4	C	1-14	15,16	60,238	21,320

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	
1	Rapid	3 1/4
	Medium	6 1/4
	Slow	9 1/4
2-3	Rapid	3 1/4
	Medium	6 1/4
	Slow	9 1/4
4	Rapid	5
	Medium	6 1/4
	Slow	9 1/4

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Richmond County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Mollusk (Lancaster Co.)	Tappahannock
1-4	A	10.1	10.7

2. VULNERABILITY - (Population: 353,000 -- Additional Overnight Population at Peak Season: 43,500)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-4	A	--	--	708

3. EVACUATION - (See source document, Figure 6-16, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-4	A 1-5	6-11	708	370	

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	
1-4	Rapid	3 1/4
	Medium	6 1/4
	Slow	9 1/4

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City of Suffolk

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Pig Point
1-4	A	15.8

2. VULNERABILITY - (Population: 54,700)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-4	A	--	--	3,522

3. EVACUATION - (See source document, Figure 6-8, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-4	A	1-8	9-18	3,522	1,330

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	w/Tourist Occupancy Low	High
1	Rapid	4	7 1/2
	Medium	6	8 1/4
	Slow	9	9 3/4
2-3	Rapid	5 1/2	10 1/2
	Medium	7	11 1/4
	Slow	9 1/4	12 1/2
4	Rapid	7 1/4	13 1/2
	Medium	8 1/4	14 1/4
	Slow	9 1/2	15 1/2

THE DATA PROVIDED IS FROM THE 1992 VIRGINIA HURRICANE EVACUATION STUDY AND WILL BE UPDATED UPON COMPLETION OF THE RESTUDY THAT IS ON GOING AT THE TIME OF THIS REVISION.

City of Virginia Beach

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Back Bay	Sandbridge	Rudee Inlet	Lynnhaven Inlet
1-2	A	3.6	8.2	8.2	8.2
3	B	5.2	11.7	11.4	11.7
4	C	15.0	14.4	14.4	14.3

2. VULNERABILITY - (Population: 353,000 -- Additional Overnight Population at Peak Season: 43,500)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-2	A	45,091	69,024	77,726
3	B	71,747	95,680	104,382
4	C	96,813	120,746	129,448

3. EVACUATION - (See source document, Figure 6-4, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-2	A	1-13	14-45	45,091	22,510
3	B	1-23	24-45	to	to
4	C	1-37	38-45	129,448	54,655

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	w/ Tourist Occupancy Low	Medium	High
1-2	Rapid	8 1/2	12 1/4	15 1/2
	Medium	10	14 1/2	19 1/2
	Slow	12 1/4	18	25 1/4
3	Rapid	9 3/4	13 1/2	16 3/4
	Medium	11 1/4	15 3/4	20 1/2
	Slow	13 1/2	19 1/4	26 1/2
4	Rapid	10	13 3/4	17
	Medium	11 1/2	16	21
	Slow	13 3/4	19 1/2	26 3/4

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Westmoreland County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Still Water Elevation Yeocomico River	Coles Point	Colonial Beach
1-4	A	8.6	8.9	10.7

2. VULNERABILITY - (Population: 14,500)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
1-4	A	--	--	1,412

3. EVACUATION - (See source document, Figure 6-19, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
1-4 A	1-4	5-10	1,412	840	

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	
1-4	Rapid	3 1/4
	Medium	6 1/4
	Slow	9 1/4

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York County

1. STORM SURGE

Saffir-Simpson Category	Storm Scenario	Maximum Surge Height (in feet) Croaker Landing	Still Water Elevation Yorktown
2-4	A	13.5	15.6

2. VULNERABILITY - (Population: 43,200)

Saffir-Simpson Category	Storm Scenario	Vulnerable Population w/ Tourist Occupancy Low	Medium	High
2-4	A	--	--	12,182

3. EVACUATION - (See source document, Figure 6-12, for a map of evacuation zones.)

Saffir-Simpson Category	Storm Scenario	Evacuate All Persons in Zones	Evacuate Mobile Home Residents in Zones	People Evacuating Dwelling Units	Vehicles Evacuating Dwelling Units
2-4	A	1-5	6-12	12,180	5,280

4. CLEARANCE TIMES (in hours)

Saffir-Simpson Category	Response	w/ Tourist Occupancy Low	High
1-2	Rapid	9 1/2	11 1/2
	Medium	10	12
	Slow	11	13 1/4
3-4	Rapid	16 3/4	19 1/4
	Medium	17 1/2	20
	Slow	18 1/4	21

*Source: Virginia Hurricane Evacuation Study, Technical Data Report, U. S. Army Corps of Engineers, April 1992.

THE DATA PROVIDED IS FROM THE 1992 VIRGINIA HURRICANE EVACUATION STUDY AND WILL BE UPDATED UPON COMPLETION OF THE RESTUDY THAT IS ON GOING AT THE TIME OF THIS REVISION.

HURRICANE EVACUATION DESTINATIONS

RISK LOCALITY	Maximum Vulnerable*	Percent Evacuating	People Evacuating	People To Shelters*	Shelter Capacity	People to Local Friends**	People to Local Hotels**	People Leaving Locality
Accomack Co.	29,200	90	26,280	6,732	5,700	4,121	566	17,771
Northampton Co.	4,930	90	4,437	1,881	2,020	1,347	0	1,704
Chesapeake	48,410	75	36,308	7,735	6,400	22,116	752	17,809
Portsmouth	60,240	75	45,180	8,001	15,878	33,006	3,013	16,220
Suffolk	3,520	30	1,056	733	1,700	1,712	113	966
Norfolk	179,800	90	161,820	23.388	27,650	68,060	9,719	78,613
Virginia Beach	129,450	90	116,505	13,553	30,155	49,320	4,725	87,380
Hampton	76,890	90	69,201	7,826	5,890	34,042	1,965	33,058
Newport News	25,410	90	22,869	7,250	9,180	11,830	921	5,411
Poquoson	8,410	90	7,569	1,072	800	3,486	191	3,665
York Co.	12,180	75	9,135	1,627	10,500	4,538	542	5,477
Gloucester Co.	10,670	75	8,002	2,138	1,200	6,413	0	2,125
Mathews Co.	6,326	75	4,747	960	1,000	2,808	0	2,165
Middlesex Co.	1,210	30	363	307	---	702	0	205
Lancaster Co.	2,140	30	642	481	---	1,252	0	407
Richmond Co.	710	30	213	214	---	405	0	92
Northumberland Co.	1,340	30	402	351	---	772	0	214
Westmoreland Co.	1,410	30	423	461	---	798	0	154
TOTALS				84,710		246,728	22,507	273,436

*Planning assumptions for Virginia, Virginia Hurricane Evacuation Study, January 1992 Category 3-4, High Season Occupancy
**Source: Annex E of the "Transportation Model Support Document (July 1,°90) to the Virginia Hurricane Evacuation Study

THE DATA PROVIDED IS FROM THE 1992 VIRGINIA HURRICANE EVACUATION STUDY AND WILL BE UPDATED UPON COMPLETION OF THE RESTUDY THAT IS ON GOING AT THE TIME OF THIS REVISION.

Appendix 5

STATE EMERGENCY SUPPORT FUNCTION (ESF) MATRIX

ESF	Scope
ESF #1 – Transportation Primary – Transportation Support – Aviation, Chesapeake Bay Bridge-Tunnel, General Services, Military Affairs, Mines Minerals & Energy, Motor Vehicles, Rail & Public Transportation, State Police, Transportation, Virginia Port Authority	• State and civil transportation support • Transportation Safety • Restoration/recovery of transportation infrastructure • Movement restrictions • Damage and impact assessment
ESF #2 – Communications Primary – Information Technology Support – Aviation, Conservation & Recreation, Emergency Management, Forestry, General Services, Military Affairs, State Police, Transportation	• Coordination with telecommunications industry • Restoration/Repair of telecommunications infrastructure Protection, restoration, & sustainment of state cyber & information technology resources
ESF #3 – Public Works and Engineering Primary – Conservation & Recreation Support – Environmental Quality, General Services, Military Affairs, Mines, Minerals & Energy, Transportation	• Infrastructure protection and emergency repair • Infrastructure restoration • Engineering services, construction management • Critical infrastructure liaison
ESF #4 – Firefighting Primary – Fire Programs, Forestry Support – Conservation & Recreation, Environmental Quality, Military Affairs, State Police	• Firefighting activities on state lands • Resource support to rural and urban firefighting operations
ESF #5 – Emergency Management Primary – Emergency Management Support – Forestry, Environmental Quality	• Coordination of incident management efforts • Issuance of mission assignments • Resource and human capital • Incident action planning • Financial management
ESF #6 – Mass Care, Housing, and Human Services Primary – Social Services, Support - American Red Cross, Criminal Justice Services, Emergency Management, Health, Housing & Community Development, Mental Health, Virginia VOAD	• Mass care • Disaster housing • Human services
ESF #7 – Resource Support Primary – General Services Support – Agriculture, Aviation, Corrections, Criminal Justice Services, Emergency Management, Fire Programs, Forestry, Health, Housing & Community Development, Military Affairs, Motor Vehicles, State Police, Transportation	• Resource Support (facility space, office equipment and supplies, contracting services, etc.)
ESF #8 – Health and Medical Services Primary – Health Support – American Red Cross, Mental Health, Military Affairs	• Public health • Medical • Mental health services • Mortuary services
ESF #9 – Search and Rescue Primary – Emergency Management Support – State Police, Fire Programs	• Life-saving assistance • Search and rescue

ESF	Scope
ESF #10 – Oil and Hazardous Materials Response Primary – Emergency Management, Environmental Quality Support - Health,	• Oil & hazardous materials (chemical, biological, radiological, etc.) response • Environmental safety and short- and long-term cleanup
ESF #11 – Agriculture and Natural Resources Primary – Agriculture Support - Conservation & recreation, Marine Resources, Historic Resources, Game and Inland Fisheries	• Nutrition assistance • Animal and plant disease/pest response • Food safety and security • Natural and cultural resources and historic properties and restoration
ESF #12 – Energy Primary – State Corporation Commission Support – Emergency Management, Information Technology, Mines, Minerals & Energy	• Energy infrastructure assessment, repair, and restoration • Energy industry utilities coordination • Energy forecast
ESF #13 – Public Safety and Security Primary – State Police Support – Conservation & Recreation, Corrections, Criminal Justice Services, Game & Inland Fisheries, Military Affairs	• Facility and resource security • Security planning and technical and resource assistance • Public safety/security support • Support to access, traffic, and crowd control
ESF #14 – Long-Term Community Recovery Primary – Emergency Management Support – Housing & Community Development, Corrections, Social Services, Mental Health, Virginia Employment Commission, Virginia VOAD	• Social and economic community impact assessment • Long-term community recovery assistance to local govts & the private sector • Mitigation analysis and program implementation
ESF #15 – External Affairs Primary – Emergency Management Support – Fire Programs, Military Affairs, State Police, Transportation	• Emergency public information and protective action guidance • Media and community relations • Legislative affairs •

Functional Annex A:
DIRECTION AND CONTROL

MISSION

A. During normal operations, to establish an Emergency Operations Center (EOC) from which the Governor, or his designee, can direct and control emergency operations statewide. Detailed procedures for Virginia Emergency Operations Center (VEOC) operations must be developed and maintained. An ongoing training program must be provided for the Virginia Emergency Response Team (VERT), and adequate facilities and equipment must be provided.

B. When a tropical cyclone is threatening coastal Virginia, or the remnants of a tropical cyclone which made landfall along the Gulf coast and is tracking into inland Virginia, the VEOC monitors the situation and will be augmented accordingly. The VEOC will be staffed to collect information, review status of pre-landfall protective actions, produce the required reports and coordinate requests for assistance from local governments. A "State EOC Procedures Manual for Emergency Operations" (EOC SOP) is published separately. It serves as the basis for VEOC training activities as well as for response operations.

ORGANIZATION

A. The state response to the event will be under the direction of the State Coordinator, who reports directly to the Governor or designee. The supporting VEOC staff will consist of the VERT.

B. Emergency operations must be compatible with the National Response Plan and the DHS/FEMA Regional Response Plan (Region III). In the event of a hurricane, federal staff and resources may be available to augment and supplement state and local emergency operations. DHS/FEMA Headquarters will designate a Principle Federal Official (PFO).

CONCEPT OF OPERATIONS

A. In the event of a hurricane, the Governor will issue an Executive Order authorizing the use of state resources to supplement the efforts and resources of local governments and relief organizations in preventing or alleviating the damage, loss and hardship when it is evident that the situation is beyond their capability or expertise. Local governments shall implement their Emergency Operations Plan as needed in order to protect public safety and property.

B. The VEOC will disseminate the issuance of an Executive Order to the Governor's Cabinet, state agency directors, state agencies, VDEM staff, and local government via established communications pathways.

C. The VEOC must respond effectively to developing events. When severe weather events are developing, the communications center will monitor the situation and disseminate appropriate weather information on a continuous basis to the Governor's Cabinet, state agency directors, state agencies, VDEM staff, and local governments as prescribed in guidance documents and procedures.

D. The VDEM Hurricane Program Manager will relocate to the VEOC at Readiness Condition 4. The Hurricane Program Manager will make preparation to provide technical planning guidance and assistance with evacuation decisions using HURREVAC 2000, hurricane tracking models and other tools.

E. The VEOC will conduct conference calls with National Weather Services, state agencies, and local governments to discuss the weather forecast (i.e., storm arrival and potential impact) and operational issues, including evacuation and sheltering. Daily situation reports must be provided by each affected local EOC to the VEOC. Radio Amateur Civil Emergency Services (RACES) will serve as an alternate or backup means of communications between the VEOC and affected localities' EOCs.

F. The VDEM Mobile Command Post may be available and deployed as needed for on-scene emergency operations and/or communications purposes.

G. After the impact, if local government is unable to provide the capability and expertise to effectively manage the event, the VEOC shall coordinate request(s) for state assistance. Should the event be beyond the capability of the state to respond, the VEOC will coordinate with DHS/FEMA for federal assistance to the impacted area.

H. In a joint venture between DHS/FEMA, the State and local governments, VEOC will deploy Preliminary Damage Assessment (PDA) Teams to document the impact on individuals, families, businesses and public property.

I. During recovery operations, the major activity will shift to a forward location near the impacted area in order to more effectively support state and local recovery. When this occurs, previously-designated VEOC staff and other state and volunteer agencies will deploy to the forward operating location which is usually located in the Joint Field Office (JFO). As responsibility for recovery operations is assumed by the JFO staff, the VEOC activities will be scaled down accordingly, returning to normal operations as soon as possible.

J. The Joint Information Center (JIC), when established, will coordinate all public news releases.

K. In order to assure the operational capability of the VEOC, periodic tests and exercises will be conducted to test the validity of plans and procedures, to provide training for the VERT and to test the adequacy of facilities and equipment. An after-action report identifying specific corrective actions will be prepared after each exercise.

DIRECTION AND CONTROL DECISION PROCESS

Condition 5: Routine Operations

1. VDEM Hurricane Program Manager (HPM) will develop and maintain the Hurricane Incident Annex to the COVEOP.

2. VDEM Director of Operations will develop and maintain VEOC SOP that provides for VEOC operations.

3. VDEM Information Technology staff will maintain an in-house capability to use computer-aided hurricane tracking and evacuation decision tools and programs.

4. VDEM Hurricane Program Manager provides training for VEOC staff and the Virginia Emergency Response Team (VERT), as needed.

5. VDEM Communications staff will monitor and track named or numbered tropical systems and update data into HURREVAC.

6. The VDEM Director of Operations will develop a detailed staffing plan for the VERT for augmentation of the VEOC if needed for activation.

Condition 4: Forecasted Arrival of Tropical Storm Force Winds, 120 to 72 Hours (D-5 to D-3 Days)

1. HPM will alert the Director of Operations and other key personnel when a named tropical system has developed and has the potential to impact the Commonwealth.

2. HPM reports to the VEOC and begins analyzing "what-if" scenarios necessary to justify recommendation to senior management and the Governor.

3. The Director of Operations and HPM will participate in DHS/FEMA video-teleconferences with Hurricane Liaison Team for updated hurricane track projections.

4. HPM will establish communications with National Weather Service; ESF 2 & 3 Chiefs will establish communications with public utilities through the SCC and VITA, the VDOT EOC and other sources of information as needed.

5. The VERT Coordinator will augment the VERT to match the Federal staffing response to the VEOC.
6. HPM will review and implement the Hurricane Emergency Response Annex.
7. The VERT Coordinator will prepare for the arrival of the DHS/FEMA Federal Incident Response Support Team (FIRST) at the VEOC.

8. The Deputy VERT Coordinator will review and finalize internal procedures for message handling, tracking expenses and the Online EOC. Begin documentation procedures and assign an event name to WebEOC.

9. VEOC Communications Officer and VERT Planning Section Chief will establish connection with the Homeland Security Information Network (HSIN) to coordinate Federal/State/Local information sharing and development of a Common Operational Picture (COP) for response operations.

10. The VERT Coordinator will prepare for the arrival of the DHS/FEMA ERT-A at the VEOC to coordinate and assist federal disaster relief officials as needed.

11. VERT Logistics Chief will prepare for the federal identification and establishment of Mobilization Center and Staging Areas for commodities.

12. VERT Coordinator will alert state agencies and potential host localities along evacuation routes of a possible evacuation and requests status of available sheltering capabilities.

13. VERT Coordinator will initiate requirement that daily Situation Reports be submitted to VERT identifying all available shelter information.

14. VDEM Communications Officer will transmit tropical system advisories to localities via VCIN or other available communication pathways.

15. HPM will establish communications with the National Hurricane Center Liaison Officer.

16. Planning Section Chief will provide a daily situation report to the Office of the Governor, Cabinet and Agency heads, DHS/FEMA, state agencies and localities, and private and volunteer organizations.

17. VERT Coordinator will ensure funding is available for VEOC staff logistical items.

18. VDEM Communications Officer will bring RACES to Level One (notification) status.

19. VERT Logistics Chief will check Agency vehicles to ensure they are ready for response.

20. VDEM PIO activates its media plan to ensure public notification.

21. VERT External Affairs will develop staffing plan for the Virginia Public Information Center (VPIC).
22. VERT Coordinator will prepare for the arrival of the DHS/FEMA JFO staff with PFO/FCO.

23. VERT Coordinator will augment predetermined state staffing resources to match DHS/FEMA County Liaison representatives for projected impacted localities.

24. VDEM Communications Officer will contact VITA to request Conference Bridge. Initiate conference call procedures with state agencies.

25. Continue/complete all Condition 5 activities.

Condition 3: Forecasted Arrival of Tropical Storm Force Winds, 72 to 48 Hours (D-3 to D-2 Days)

1. The State coordinator or Deputy State coordinator will notify the ESF #14 Chief – Recovery, to draft an executive order for the Governor.

2. State Coordinator will notify the Office of the Governor of the current situation and request the Governor issue an executive order, declaring a State of Emergency in anticipation of the mobilization of VSP and National Guard resources at 48 hours with voluntary evacuation authority. Notify Chief Deputy State Coordinator and Deputy State Coordinator of current situation.

3. VERT Coordinator will request situation report from all localities undertaking major preparatory actions (declaring local emergency, evacuations, opening local EOC, sheltering), and/or encountering problems.

4. HPM will coordinate traffic issues, the Hampton Roads Hurricane Traffic Control Plan, and verify timeframes with VDOT, VSP, and National Guard in anticipation of one or more of the following evacuation plans:

    a. Phase One Evacuation

    b. Phase Two Evacuation

    c. Mandatory Lane Reversal (Contra Flow)

5. ESF #6 Mass Care, will coordinate with host shelter localities/facilities, as needed due to the level of the threat.

6. VDEM Communications Officer will contact VITA to request Conference Bridge. Initiate conference call procedures with National Weather Service, at-risk localities, and state agencies.

7. HPM will establish communications with North Carolina EOC to exchange evacuation status and anticipated actions.

8. VDEM Communications Officer will bring RACES to Level Two (standby) status. Ensure VEOC RACES equipment is prepared for operations.

9. DHS/FEMA DCO, PFO and FCO are in place.

10. DHS/FEMA ESFs provided authority to plan operations with state (VERT ESFs) i.e. USACE critical infrastructure and debris removal plans.

11. When the Governor declares a State of Emergency, the State Coordinator will notify State Agency Directors, State Agencies, and all state localities and DHS/FEMA. The State Coordinator will contact VSP, National Guard, and VDOT at 48 hours to mobilize for the potential to evacuate.

12. VDEM Communications Officer and VERT Planning Section Chief will test HSIN connectivity and protocols for COP.

13. Continue/complete all Condition 4 activities.

Condition 2: Forecasted Arrival of Tropical Storm Force Winds, 48 to 24 Hours (D-2 Days to D-1 Day)

1. VERT Coordinator will augment the VEOC to full operational status. Staff all major functions not previously staffed.

2. Governor to declare and convey mandatory evacuation authority, as may be necessary.

3. State Coordinator to establish Unified Command with DHS/FEMA staff at VEOC.

4. VDEM Communications Officer will bring RACES to Level Three (deployment) status to VEOC and DHS/FEMA Region III Coordination Center for operations.

5. At 48 hours the State Coordinator will advise VSP, National Guard and VDOT to preposition for evacuation. The State Coordinator will advise the Office of the Governor, Secretary of Public Safety and the Office of Commonwealth Preparedness.

6. Between 48 and 36 hours, State Coordinator will conduct a conference call to advise the at-risk jurisdictions and key state agencies of the pre-positioning of state resources. Discuss the implementation of Phase One or Lane Reversal Evacuation (See Hampton Roads Hurricane Traffic Control Plan for Phase One localities) at 27 hours with the potential for lane reversal decision that would occur at approximately 30 hours or sooner, if the storm is forecasted to make landfall at Category ***3 or higher, or as may be determined based upon the threat to the Commonwealth.***

7. Between 36 and 31 hours, the State Coordinator, after confirming with VDOT, VSP and the VNG will make the recommendation to the Governor for lane reversal if the storm is forecasted to make landfall at Category ***3 or higher, or as may be determined based upon the threat to the Commonwealth*** and will notify the Governor of the latest data received from the National Weather Service.

8. Between 30 and 28 hours, the VERT Coordinator will confer with the State Coordinator the implementation of Phase One or Lane Reversal Evacuation (see Hampton Roads Hurricane Traffic Control Plan for Phase One localities) and the need for lane reversal if the storm is forecasted to make landfall at Category ***3 or higher, or as may be determined based upon the threat to the Commonwealth***. Based on the results of the conference call, the State Coordinator will confer with the Governor and request a decision concerning Phase One evacuation. If the decision is a GO, VDEM PIO activates its media plan to ensure public notification. If the decision is NO, the VEOC will continue to monitor the progress of the storm. State Coordinator will evaluate the level of the VEOC augmentation.

9. The Governor will make the decision on the use of Lane Reversal (Contra Flow) prior to **29 hours,** if the storm is forecasted to make landfall at Category ***3 or higher, or as may be determined based upon the threat to the Commonwealth.*** If the Governor's decision is Yes, implement **Mandatory Lane Reversal Evacuation at 27 hours,** or as may be feasible. Immediately advise VSP, VDOT and the VNG to begin procedures to shut down I-64 eastbound for westbound traffic. Advise localities via VCIN or other means with confirmed response. It is recommended that Mandatory Lane Reversal not begin during hours of darkness.

10. At **28 hours,** the VERT Planning Section Chief will conduct a conference call with localities and state agencies to advise of the Governor's decision regarding **Mandatory Lane Reversal.** Notify localities to identify and staff "refuges of last resort", if necessary. Discuss the necessity of **Phase Two Evacuation** (See Hampton Roads Hurricane Traffic Control Plan for Phase Two localities) at 14 hours if required. VDEM PIO to utilize its media plan to ensure public notification.

11. VERT Planning Section Chief will advise North Carolina EOC of Governor's **Mandatory Lane Reversal Evacuation** decision.

12. At 27 hours VDOT will implement Phase One or Lane Reversal Evacuation as may be authorized. The State Coordinator will advise the Office of the Governor, Secretary of Public Safety and the Office of Commonwealth Preparedness. The VEOC will advise VSP liaison, VNG liaison, the localities and the North Carolina EOC of the evacuation decision.

13. The VERT Coordinator will check and report on the readiness preparations of selected localities and assure the continued submission of daily situation reports from local EOCs.

14. Continue/complete all Condition 3 activities.

Condition 1: Forecasted Arrival of Tropical Storm Force Winds Within 24 Hours (D-1 Day)

1. Continue to monitor **Phase One or Lane Reversal Evacuation**.

2. Between **17 to 16 hours,** the VEOC will confer with the State Coordinator the implementation of **Phase Two Evacuation** if required. The VERT Planning Section will conduct a conference call with localities and state agencies of the decision to implement **Phase Two Evacuation,** if required. VDEM PIO to utilize its media plan to ensure public notification.

3. At **14 hours**, VDOT will implement **Phase Two Evacuation** as directed. The State Coordinator will advise the Office of the Governor and the Secretary of Public Safety. The VEOC will advise VSP liaison, the National Guard liaison, the localities (via VCIN or other available pathways) and the North Carolina EOC of the evacuation.

4. At **7 hours,** The VERT Coordinator will confer with the State Coordinator regarding the need to stop **Mandatory Lane Reversal Evacuation** and initiate road clearance at 3 hours. The State Coordinator will advise the Office of the Governor and the Secretary of Public Safety. The VERT Coordinator will advise VSP liaison, the National Guard liaison and VDOT EOC and advise the localities via VCIN or other confirmed pathways.

5. At **6 hours**, the VERT Planning Section Chief will conduct a conference call with localities and state agencies and coordinate the preparation to stop **Mandatory Lane Reversal Evacuation** and initiate road clearance at 3 hours before the arrival of tropical storm force winds.

6. At **3 hours, stop Mandatory Lane Reversal Evacuation;** VDOT, VSP and VNG resources will initiate road clearance before the arrival of tropical storm force winds. Evacuees still en route will be directed to "refuges of last resort" by local resources where refuges are available.

7. VERT Coordinator will monitor and report on the status of the evacuation to the Governor, Secretary of Public Safety and the Office of Commonwealth Preparedness.

8. Continue/complete all Condition 2 activities.

Landfall: Arrival of Tropical Storm Force Winds – Departure of Tropical Storm Force Winds

1. Continue to monitor the track of the storm.

2. Monitor shelter status.

3. Prepare for resource requests.

Emergency Relief Phase: Life-Saving Operations and the Restoration of Essential Services

1. The VERT will assist with life-saving operations and with the restoration of essential services and facilitate the access of Preliminary Damage Assessment (PDA) Teams and other critical workers to the damaged areas.

2. With the help of federal and state officials within a predetermined timeframe of the passing of the storm, the Operations Chief will conduct an on-site needs assessment of damaged areas.

3. ESF-14 Chief will coordinate PDA process with federal, state and local resources.

4. ESF-14 Chief will complete PDA's that will be the basis for requesting federal disaster assistance.

Note: Although coastal localities and the State EOC will be using these hurricane-specific operations periods, others, to include host localities, will not. They do not have separate hurricane plans and will be using the standard operations periods. (Reference the State EOP.) However, the two checklists are not incompatible.

NON-COASTAL TROPICAL EVENT

(Usually resulting from remnants of a Tropical Cyclone that made landfall along the Gulf.)

When the remnants of a tropical cyclone which made landfall along the Gulf coast is tracking into inland Virginia, the VEOC monitors the situation and will be augmented accordingly. The VEOC will be staffed to collect information, review status of post-landfall protective actions, as may be necessary for the threat, produce the required reports and coordinate requests for assistance from local governments. Under such conditions, forecast or threats for heavy rainfall, major thunderstorm activity and possible tornado activity resulting in possible inland flooding and abnormal wind impacts may cause substantial damage to the Commonwealth. In such cases where Flood Warnings are issued by the National Weather Service, the specific wind thresholds for the implementation of the above Readiness Conditions may not exist. In such cases the VEOC will continue operations at an Increased Readiness level according to the level of threat to the Commonwealth.

ACTION TIMELINE *

Readiness Condition	Hours/Miles	PHASED EVACUATION	LANE REVERSAL EVACUATION
	Key Action Time/ Forecast Accuracy - Nautical Miles		
RC 3	72 / @ 170 +/-	Governor's State of Emergency Declaration	Governor's State of Emergency Declaration
RC 2	48 / @ 125 +/-	VEOC Initiates Prepositioning of State Resources	VEOC Initiates Prepositioning of State Resources (VSP & VNG mobilizes)
	30	Governor's Evacuation Decision Point	Governor's Mandatory Lane Reversal Decision Point
	27	Mandatory Phased Evacuation Implemented	Mandatory Evacuation w/ Lane Reversal Implemented
		^ Phase One Evacuation Begins (8 Localities)	
RC 1	24 / @ 75 +/-		
	14	^ Phase Two Evacuation Begins (5 Localities)	
	12 / @ 50 +/-		
	3	Start Road Clearance	Start Road Clearance Both East and West
	0	Arrival of Tropical Storm Force Winds	Arrival of Tropical Storm Force Winds

*** VNG needs 24 hours from time of notification to link up with VSP in the field.**

Annex A, Attachment 1

DIRECTION AND CONTROL
Alerting, Reporting, Warning, Notification, and Communications

GENERAL

State-level reporting, warning, notification and communications are explained in the State EOP, Volume 1: Basic Plan, Annex A through C and in supplemental State EOC procedures. In addition there are several hurricane-specific requirements, which must be considered.

ASSUMPTIONS

A. There will be an immediate and continuous demand for information needed in the decision-making process.

B. State agencies and local governments will be the best and most immediate sources of vital information regarding damage assessment and initial response requirements.

C. There may be delays in acquiring and assimilating the information.

D. Communications problems, damage, weather, flooding and other environmental factors may restrict situation assessment operations.

E. The coordination and information gathering process will include key state agencies and local, state and federal governments, depending on the phase of the event (i.e., weather emergency operations, assessment or recovery).

COMMUNICATIONS PATHWAYS

The Virginia Department of Emergency Management has the legal responsibility for the dissemination of essential information relating to severe weather and other potential emergencies that threaten the Commonwealth. The following provide pathways to disseminate this information:

A. **Virginia Criminal Information Network (VCIN):** VCIN is the primary warning system to local governments. It is a disaster-resistant, secure network with a terminal usually located in a 24-hour dispatch facility or local Public Safety Answering Point in each locality in Virginia. The primary types of messages relayed over the system are:

1. Weather Products (warnings, watches, specific advisories)

2. Immediate Emergency Information

3. Time Sensitive Information for Localities

B. **Mass Facsimile:** Mass facsimile is the primary method of relaying detailed information to state agencies, local jurisdictions, and media outlets concerning:

1. Situation Reports (SITREPS)

2. Press Releases of Specific Interest

3. Weather Situations

4. Other Key Information

It is also used as an alternate means of communications with local jurisdictions.

C. **Conference Calls:** The VERT Planning Section Conference Call Coordinator will conduct conference calls with state and federal agencies, voluntary organizations and local jurisdictions to discuss weather forecasts (i.e., storm arrival and potential impact) and operational issues. The conference calls will usually take place twice a day during a disaster or as deemed necessary. The State Warning Point Supervisor or designee will publish a schedule of calls and telephone number, pin number and disseminate this information via VCIN, telephone, or mass facsimile.

D. **RACES:** The VEOC RACES station is used as an alternate means of communications between local jurisdictions and the state. Information can be relayed by voice and/or data. There are three levels of readiness (notification, standby, and deployment) dependent on the Hurricane Readiness Condition.

E. **Warning Circuits:** The VEOC Communications Center is equipped with the National Warning System (NAWAS), Virginia Warning System (VAWAS), Washington Area Warning System (WAWAS), and Dominion Virginia Power Instaphone. These systems may be used as an alternate means of communications to transmit or receive information between stations that are subscribers and the state.

F. **HF Radio:** Selected jurisdictions, VDEM Regional Coordinators, and the VEOC are equipped with HF Radio equipment. This system may be used as an alternate means of communications.

G. **VDEM Website:** The VDEM web page may be utilized to access situation reports, media releases and links to various agencies to obtain information; however, this information may

not be current. The Online EOC and WebEOC may be utilized by local jurisdictions to send reports (situation and damage) to the VEOC and view latest reports from jurisdictions as desired.

DISSEMINATION

A. Tropical Cyclone Forecast Advisories are issued by the National Hurricane Center every six hours, but more frequent if the system threatens human population. The Communications Center will monitor and track named or numbered tropical systems and update into HURREVAC.

B. The VEOC Communications Center will transmit Tropical Cyclone Forecast Advisories data to local jurisdictions via VCIN when the system appears to threaten the Commonwealth of Virginia within 120 hours (5 days).

C. In the event of VCIN failure, weather warnings will be issued via warning circuit and/or telephone. Significant weather information, such as watches and specific advisories, will be sent via facsimile, telephone, and/or RACES and placed on VDEM web site and WebEOC.

D. Once issued, situation reports (SITREPS) will be sent by email or mass facsimile to the Governor's Office, Governor's Cabinet, state agency directors, state agencies, and local jurisdictions. Situation reports will also be sent to local jurisdictions via VCIN.

E. Conference calls will usually be scheduled twice daily. The VEOC will notify state and federal agencies and voluntary organizations by telephone and local jurisdictions by VCIN. The schedule of the conference calls and the telephone number will be provided by the VEOC.

F. The VEOC Communications Center will establish HF Radio communications with DHS/FEMA Regions I and IV.

G. In the event of telephone or VCIN failure, information can be received or transmitted by WebEOC, RACES, Warning Circuits, or HF radio.

COLLECTION PROCESS

The Virginia Department of Emergency Management has the responsibility for collecting essential information relating to emergencies and disasters in the Commonwealth. The following provides the methods of collection:

A. **Status Assessment Reports:** The primary method of receiving local and state agency status reports is facsimile, WebEOC and/or Online EOC. Secondary methods include telephone or

RACES. The Communications Center receives these reports (situation and damage) and refers them directly to the VERT, Planning (ESF-5). The Planning Section collects, analyzes, and displays the information received as an aid in planning response and recovery operations and the preparation of state summary situation reports (SITREPS). The two types of status assessment reports are the situation report, based on the essential elements of information; and the initial damage assessment report and data summary reports, to facilitate the state in asking for federal or other assistance.

B. **Requests for Assistance:** The primary method for receiving local requests for assistance is via telephone to the VEOC Communications Center and then to the Local Liaison Section. Secondary methods include RACES, VCIN, HF radio or warning circuits. All requests are placed into WebEOC by the Local Liaison and referred to the appropriate Emergency Support Function. The appropriate Branch Chief will track the request for assistance through its completion. All completed requests for assistance will be closed in the WebEOC by the Emergency Support Function (ESF).

SPECIFIC WEATHER PRODUCTS

The following are brief descriptions of NWS weather products disseminated by VEOC:

A. **Watch:** A potential for the specified type of severe weather (i.e., flash flood, tornado, severe thunderstorm) in a defined area.

B. **Warning:** Conditions are imminent for the specified type of severe weather in a defined area.

C. **Tropical Cyclone Forecast/Advisory:** Issued by the National Hurricane Center every six hours, or more frequently if human population is threatened. This information provides wind field information, direction and speed of the tropical cyclone. Wind speeds are in knots (nautical miles per hours), distance in nautical miles, and times in Coordinated Universal Time (UTC) as opposed to local time. This information is to be used in the HURREVAC model for tracking and for “what-if” risk analyses.

CONFERENCE CALL PROCEDURES

PURPOSE

Conference calls will be conducted usually twice per day or as deemed necessary, to discuss weather impact and operational issues. The duration of the conference call should not exceed one hour. Attendees will include the VEOC, state agencies, voluntary organizations, affected local jurisdictions, and the National Weather Service.

AT LEAST ONE HOUR PRIOR TO THE SCHEDULED CONFERENCE CALL

A. The State Warning Point supervisor or designee will notify National Weather Service, VDEM Staff, State agencies and Voluntary Organizations by email, VCIN and/or fax, 2-3 hours prior to the call. The VEOC will provide the time of the conference call and the telephone number being used.

B. The SWP will send a VCIN to affected local jurisdictions advising of the time of the conference call, telephone number being used and agenda. The VCIN message should state: RELAY TO EMERGENCY SERVICES COORDINATOR. Secondary means of notification include telephone and mass facsimile.

C. The VEOC Communications Center will transmit tropical Cyclone Forecast Advisory Data via VCIN to affected local jurisdictions. If available, the latest weather data (i.e., tidal information, special weather statements, and coastal flood statements) may be posted on the VDEM web site. The Emergency Services Coordinators should review this information prior to the scheduled conference call.

CONFERENCE CALL PROCEDURES

A. Conference calls will be moderated by the VERT Planning Section Conference Call Coordinator. A roll call will be conducted by the Conference Call Coordinator prior to starting the conference call to determine attendance. Participants **will not** use cellular telephones due to noise interference. Participants should mute their speakerphones during the conference call to reduce noise interference.

B. The conference call will begin with the National Weather Service discussing the potential impact of the storm. Participants are encouraged to review National Weather Service products for detailed information specific to their locality before or after the conference call.

C. After the weather briefing, the Conference Call Coordinator will coordinate operational issues and discuss evacuation procedures and the undertaking of major preparatory actions with the local jurisdictions.

D. After discussing issues with Local jurisdictions, the VEOC will coordinate operational issues with State agencies. At this time, the Local jurisdictions may elect to terminate participation on the conference call.

E. At the conclusion of the conference call, the Conference Call Coordinator will advise the participants of the time of the next conference call.

CONFERENCE CALL SCHEDULE

If applicable, the conference call schedule concerning evacuation is as follows:

A. **72 Hours (3 Days):** Begin conference calls at least twice per day.

B. **36 to 28 Hours:** Advise at-risk jurisdictions and key state agencies of the prepositioning of state resources and discuss the implementation of Phase One evacuation at 27 hours and the potential lane reversal decision at 20 hours.

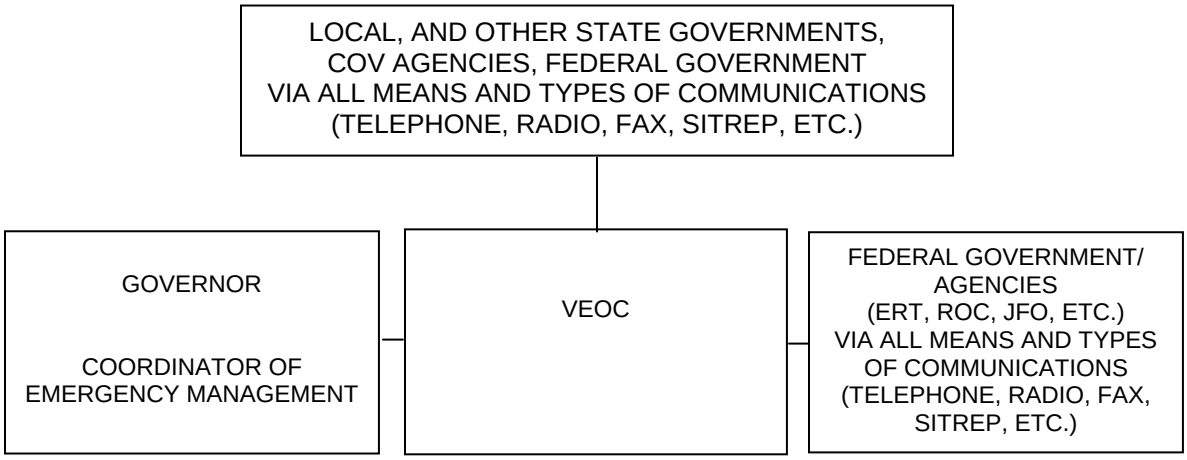
C. **23 Hours:** Advise at-risk jurisdictions and key state agencies to implement **mandatory lane reversal at 20 hours** and have localities identify “refuges of last resort”. Also, discuss the necessity of Phase Two evacuation at 14 hours, if required.

D. **17 to 16 Hours:** Advise at-risk jurisdictions and key state agencies of the decision to implement Phase Two evacuation, if required.

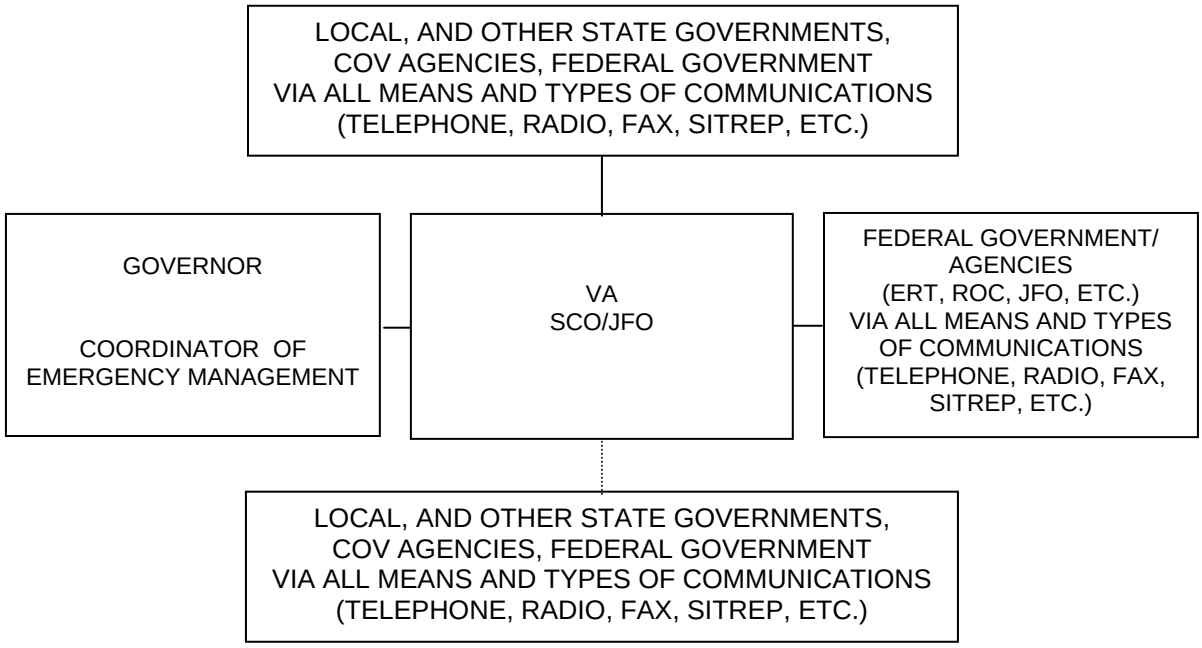
E. **6 Hours:** Advise localities and key state agencies to coordinate the preparation to stop **mandatory lane reversal** and initiate road clearance at 3 hours before the arrival of tropical storm force winds.

Reporting Flow Diagram

PHASE: PRIOR TO AND DURING EMERGENCY OPERATIONS



PHASE*:* AFTER INITIAL EMERGENCY AND ESTABLISHMENT OF COMPLETE ERT AND JFO



Annex A, Attachment 2
HURREVAC AND DECISION ARCS

STORM ASSESSMENT

A. Purpose

The purpose of this section is to provide a guide to storm assessment as an aid to the decision-maker. It must be understood that HURREVAC 2000 and decision arcs are only an aid to decision making. The decision as to whether or not to evacuate vulnerable populations can only be made by the appropriate authority, and must be based upon a wide range of relevant information. Decision arcs can provide cues as to when decisions should be made, but not the decisions themselves. This data will be updated with new data upon completion of the on going Virginia Hurricane Evacuation Restudy.

B. Background

1. Along the Atlantic seaboard, hurricanes do not ordinarily approach the coast from a direction perpendicular to the coastline. Instead, the more typical case is that they are curving up from the tropics, and are being affected by all sorts of esoteric weather and geographic phenomena ranging from upper air currents to the Gulf Stream. This means that, try as we might, we cannot always accurately predict the angle of approach to the shore. Since at a typical angle of approach (nearly parallel) an error of 10 degrees in predicting the hurricane track can easily mean a 100 mile error in predicted landfall the next day, this uncertainty must be borne in mind at all times when doing emergency planning. The average error of a 12 hour official track forecast is 47 nautical miles, and the further ahead the forecast, the worse the prediction.

2. In addition to the location error of the official forecast track, the uncertainties that go with a storm approaching nearly parallel to the coast create errors in time of predicting landfall. Hurricanes also speed up, slow down, stop and start, and occasionally do loops en route to landfall, thus further complicating emergency planning and decision-making.

3. Decision Arcs represent a “Handraulic” means of graphically minimizing uncertainty and presenting the decision-maker with reasonably accurate timeframes for decision-making. There are several commercially produced computer software programs available, which automate and enhance the Decision Arc system. The “HURREVAC 2000” computer software system is one of those programs. The decision-maker must always bear in mind, however, that "Hurricanes do what they want to do" and that they always bear close watching.

HURREVAC 2000

BACKGROUND

A. Each "At-Risk" jurisdiction has been provided access to the storm tracking and evacuation timing computer program "HURREVAC 2000". HURREVAC, a hurricane evacuation decision assistance program for emergency managers, is a U. S. Government program produced by DHS/FEMA and the Corps of Engineers for the emergency management community, and is not for public distribution. This program is a tool, which automates the decision arc process and which incorporates the evacuation timing data from the 1992 TDR and also includes the NHC Wind Decay Model to project the timing and impact of winds on coastal and inland counties.

B. HURREVAC is a common decision aid for the entire Commonwealth of Virginia. It permits emergency managers to coordinate state, regional and local hurricane response actions based upon a single set of official facts, studies, models and predictions. Accordingly the HURREVAC forecast and data will be used as the basis for discussions and conference calls coordinating hurricane protective decisions and actions. As such, HURREVAC and its associated data have been designated as the single source for official hurricane data and forecast and will be used as the basis for hurricane related decisions in the Commonwealth of Virginia. It is emphasized that HURREVAC does not make decisions. It does provide a common point of reference for decision-making. Appropriate state and local officials make all decisions.

HURREVAC METHODOLOGY

State and local emergency managers will use HURREVAC to obtain the latest official hurricane advisory and easily interpreted storm history, forecast track, characteristics, and current position. Current advisory data is downloaded directly from the Internet or can be manually entered into the program. Recognizing that precise prediction of future actions is not possible, HURREVAC combines the historic NHC forecast errors to provide an indication of affected areas should the hurricane deviate from its predicted track. Armed with this information, the emergency manager is able to make timely evacuation, sheltering and other community protective decision actions.

VIRGINIA DEPARTMENT OF EMERGENCY MANAGEMENT (VDEM)

A. VDEM will track active named tropical systems using HURREVAC.

B. Upon determination that Virginia localities may be affected, conference calls will be initiated as required to ensure that potential affected areas are alert and taking appropriate actions.

C. Issue news releases and other public information as appropriate.

D. Monitor the status of local actions and provide assistance, resources, guidance or coordination as may be appropriate.

NATIONAL WEATHER SERVICE - NATIONAL HURRICANE CENTER

A. Serves as the single source of facts, predictions and forecast for all hurricanes. Information from the NHC and the Wakefield WFO will form the basis for all Virginia Hurricane decisions.

B. Provide hurricane data for use with HURREVAC. This data will be available to emergency managers via the Internet.

LOCALITIES

A. Track all hurricanes.

B. Use HURREVAC to monitor the position and forecast path of all hurricanes.

C. Upon determination that the local jurisdiction may be within the path of the hurricane or the effects of the hurricane, initiate actions to inform and prepare the public to take early protective actions.

D. As the storm approaches and the certainty that the hurricane will impact or affect the area increases, implement evacuation, sheltering and other decisions.

E. Coordinate public information releases and other decisions with neighboring jurisdictions.

F. Activate the EOC in a timely manner.

G. Ensure that VDEM is informed of the local situation.

H. Jurisdictions not adversely threatened, should be alert to provide shelter and assistance to evacuees from other localities.

DECISION ARCS

This section also contains a training package, which is intended to provide a "Stand Alone" Decision Arc capability for local and regional emergency services personnel. The objective is to allow emergency service personnel, by the completion of this package, to be familiar with the process of decision arc plotting, and the fundamental considerations necessary for sound decisions in the face of a hurricane. In order to employ the decision arc method, you will need two separate but related items, which, when used together, present a graphic depiction of the hurricane's present and predicted situation as it relates to each city and county. These are the decision arc map and the Special Tool for Omni-directional Radial Measurements, whose acronym is appropriately, "STORM".

A. Decision Arc Map

In order to properly evaluate the last reported position and forecast track of an approaching storm, special hurricane tracking charts have been developed for three separate geographic areas in eastern Virginia. Superimposed on an ordinary tracking chart is a series of concentric arcs centered on each of the areas and spaced at 20 nautical mile intervals. There are maps for the Tidewater Zone, the Eastern Shore Zone and the Upper Neck Zone. These maps are included as an attachment to this package.

B. STORM

1. The STORM is used as a two dimensional depiction of an approaching hurricane. It is a transparent disk with concentric circles at 20- nautical mile intervals centered on the hurricane's eye. These circles form a scale used to note the radii of gale force (34 knot) winds as reported by the National Hurricane Center in the marine advisory.

2. It should be noted that any size map and STORM could be constructed to fit the needs of a particular locality. The map and the STORM must always be of the same scale however.

DECISION ARC METHODOLOGY

A. Decision Arc Instructions

1. Assemble basic "tools" for use. These are:

a. Decision Arc map appropriate for your zone.

b. Local Decision Arc table(s).

c. Transparent STORM disc, Figure 1.

d. Latest National Weather Service forecast advisory.

2. Using the NWS forecast advisory, plot the last reported position of the hurricane eye on the Decision Arc map. Note the position with date and ZULU time. You may wish to convert ZULU to local time for convenience. Plot and annotate the forecast positions of the hurricane similarly.

3. Note the largest radius of tropical storm force (34 knot) winds, the forecast maximum sustained wind speed at landfall (this determines hurricane category), and the current forward speed of the hurricane.

4. Using the maximum forecast sustained wind speed at landfall, enter the Saffir/Simpson hurricane scale table, and determine the category of the approaching hurricane. Because of uncertainties inherent in forecasting, the Virginia Department of Emergency Management and the National Hurricane Center recommend that you add one category to the forecast landfall intensity for planning purposes. With the amended category and the forward speed of the hurricane, enter the local Decision Arc table and derive the appropriate clearance time. This time gives you the correct Decision Arc; mark this arc on your local Decision Arc map.

5. Plot the largest radius of 34-knot (tropical storm force) winds on your STORM disk.

6. Put the STORM disk on the Decision Arc map with the center of the STORM disk at the last reported location of the hurricane eye. If the 34-knot wind line touches or crosses the Decision Arc line, you should have already made your evacuation decision and be implementing it.

7. Determine what the forecast forward speed of the hurricane is by measuring the distance between the first and second forecast positions and divide by 12. If this derived speed is greater than the present speed, the hurricane is expected to accelerate and you should repeat the above steps to re-determine an appropriate Decision Arc.

8. Move the STORM disk to the first forecast position and see if the 34-knot wind line crosses or touches the Decision Arc line. If it does, then you must make your decision before the next forecast. Arithmetic will let you derive your decision time.

9. Use the wind probabilities table in the NHC advisory to determine where evacuation is likely to take place. Determine how other jurisdictions will be affected by an

evacuation of yours and when and how they should be notified. Check inundation maps to determine where flooding-may occur and evacuation zone maps for zones that should evacuate.

10. When you reach the decision point, check the NWS wind probability table for your location. If the probability is increasing, you should strongly consider recommending evacuation.

11. Repeat steps 1 through 10 after receiving each NWS advisory until you make a decision or the storm has passed.

B. It should be noted that there is no built-in provision in the Decision Arc process for time for decision-making, mobilizing support personnel, etc. These activities should be completed prior to reaching the decision point. As each bit of new information becomes available in forecast advisories, the evacuation decision and preparation process should progress so that, if necessary, the evacuation recommendation can be given by the decision point.

C. Remember that information given in the advisories are using nautical miles and knots (1 knot = 1 nautical mile per hour). If you use information, maps, etc. from other sources, those data must be converted to nautical from statute units.

DECISION ARCS
Accomack County
(Use Eastern Shore Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/Clearance Time Arc Seasonal Occupancy Low	High
CAT 1-2/10	Rapid	6-1/2 D	9-1/4 E
CAT 1-2/10	Medium	7-1/2 D	10 E
CAT 1-2/10	Slow	9-1/2 E	11 F
CAT 1-2/20	Rapid	6-1/2 G	9-1/4 J
CAT 1-2/20	Medium	7-1/2 H	10 J
CAT 1-2/20	Slow	9-1/2 J	11 K
CAT 1-2/30	Rapid	6-1/2 J	9-1/4 N
CAT 1-2/30	Medium	7-1/2 L	10 T
CAT 1-2/30	Slow	9-1/2 O	11 V
CAT 1-2/40	Rapid	6-1/2 M	9-1/4 S
CAT 1-2/40	Medium	7-1/2 O	10 T
CAT 1-2/40	Slow	9-1/2 S	11 V
CAT 3-4/10	Rapid	7-1/2 D	10 E
CAT 3-4/10	Medium	8-1/4 E	10-1/2 F
CAT 3-4/10	Slow	9-1/2 E	11-1/2 F
CAT 3-4/20	Rapid	7-1/2H	10 J
CAT 3-4/20	Medium	8-1/4 I	10-1/2 K
CAT 3-4/20	Slow	9-1/2 J	11-1/2 L
CAT 3-4/30	Rapid	7-1/2 L	10 O
CAT 3-4/30	Medium	8-1/4 M	10-1/2 P
CAT 3-4/30	Slow	9-1/2 O	11-1/2 R
CAT 3-4/40	Rapid	7-1/2 O	10 T
CAT 3-4/40	Medium	8-1/4 Q	10-1/2 U
CAT 3-4/40	Slow	9-1/2 S	11-1/2 W

DECISION ARCS
Chesapeake
(Use Tidewater Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/Clearance Time Arc Coastal Seasonal Occupancy Low	High
CAT 1/10	Rapid	3 B	4 B
CAT 1/10	Medium	6 C	6 C
CAT 1/10	Slow	9 E	9 E
CAT 1/20	Rapid	3 C	4 D
CAT 1/20	Medium	6 F	6 F
CAT 1/20	Slow	9 I	9 I
CAT 1/30	Rapid	3 E	4 F
CAT 1/30	Medium	6 I	6 I
CAT 1/30	Slow	9 N	9 N
CAT 1/40	Rapid	3 F	4 H
CAT 1/40	Medium	6 L	6 L
CAT 1/40	Slow	9 R	9 R
CAT 2-3/10	Rapid	5-1/4 C	6-1/4 D
CAT 2-3/10	Medium	6 C	7 D
CAT 2-3/10	Slow	9 E	9 E
CAT 2-3/20	Rapid	5-1/4 F	6-1/4 G
CAT 2-3/20	Medium	6 F	7 G
CAT 2-3/20	Slow	9 I	9 I
CAT 2-3/30	Rapid	5-1/4 H	6-1/4 J
CAT 2-3/30	Medium	6 J	7 K
CAT 2-3/30	Slow	9 N	9 N
CAT 2-3/40	Rapid	5-1/4 K	6-1/4 M
CAT 2-3/40	Medium	6 L	7 N
CAT 2-3/40	Slow	9 R	9 R
CAT 4/10	Rapid	8-1/2 E	9-3/4 E
CAT 4/10	Medium	9-1/4 E	10-1/4 F
CAT 4/10	Slow	10-1/4 F	11-1/4 F
CAT 4/20	Rapid	8-1/2 I	9-3/4 J
CAT 4/20	Medium	9-1/4 J	10-1/4 K
CAT 4/20	Slow	10-1/4 K	11-1/4 L
CAT 4/30	Rapid	8-1/2 M	9-3/4 O
CAT 4/30	Medium	9-1/4 N	10-1/4 P
CAT 4/30	Slow	10-1/4 P	11-1/4 Q
CAT 4/40	Rapid	8-1/2 Q	9-3/4 T
CAT 4/40	Medium	9-1/4 S	10-1/4 U
CAT 4/40	Slow	10-1/4 U	11-1/4 W

DECISION ARCS
Gloucester County
(Use Upper Neck Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/ Clearance Time Arc
CAT 1-2/10	Immediate	3-1/2 B
CAT 1-2/10	Rapid	4-1/4 C
CAT 1-2/10	Medium	6-1/4 D
CAT 1-2/10	Slow	9-1/4 E
CAT 1-2/20	Immediate	3-1/2 D
CAT 1-2/20	Rapid	4-1/4 E
CAT 1-2/20	Medium	6-1/4 G
CAT 1-2/20	Slow	9-1/4 J
CAT 1-2/30	Immediate	3-1/2 F
CAT 1-2/30	Rapid	4-1/4 G
CAT 1-2/30	Medium	6-1/4 J
CAT 1-2/30	Slow	9-1/4 N
CAT 1-2/40	Immediate	3-1/2 G
CAT 1-2/40	Rapid	4-1/4 I
CAT 1-2/40	Medium	6-1/4 M
CAT 1-2/40	Slow	9-1/4 S
CAT 3-4/10	Immediate	7-1/4 D
CAT 3-4/10	Rapid	8-1/2 E
CAT 3-4/10	Medium	10-1/2 F
CAT 3-4/10	Slow	13-1/2 G
CAT 3-4/20	Immediate	7-1/4 H
CAT 3-4/20	Rapid	8-1/2 I
CAT 3-4/20	Medium	10-1/2 K
CAT 3-4/20	Slow	13-1/2 N
CAT 3-4/30	Immediate	7-1/4 K
CAT 3-4/30	Rapid	8-1/2 M
CAT 3-4/30	Medium	10-1/2 P
CAT 3-4/30	Slow	13-1/2 U
CAT 3-4/40	Immediate	7-1/4 O
CAT 3-4/40	Rapid	8-1/2 Q
CAT 3-4/40	Medium	10-1/2 U
CAT 3-4/40	Slow	13-1/2 AA

DECISION ARC
Hampton
(Use Tidewater Area Decision Arc Map)

Storm Category/ Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/Clearance Time Arc Coastal Seasonal Occ. Low	High	(Local Movements Not on I-64)
CAT 1-2/10	Rapid	9-3/4 E	11-1/2 F	3 B
CAT 1-2/10	Medium	11 F	12-1/2 G	6 C
CAT 1-2/10	Slow	12-3/4 G	14-1/2 H	9 E
CAT 1-2/20	Rapid	9-3/4 J	11-1/2 L	3 C
CAT 1-2/20	Medium	11K	12-1/2 M	6 F
CAT 1-2/20	Slow	12-3/4 N	14-1/2 O	9 I
CAT 1-2/30	Rapid	9-3/4 T	11-1/2 R	3 E
CAT 1-2/30	Medium	11 Q	12-1/2 S	6 I
CAT 1-2/30	Slow	12-3/4 T	14-1/2 V	9 N
CAT 1-2/40	Rapid	9-3/4 T	11-1/2 W	3 F
CAT 1-2/40	Medium	11 V	12-1/2 Y	6 L
CAT 1-2/40	Slow	12-3/4 Z	14-1/2 CC	9 R
CAT 3/10	Rapid	15-1/2 H	17 I	3 B
CAT 3/10	Medium	16-1/2 I	18-1/4 J	6 C
CAT 3/10	Slow	18-1/4 J	20 J	9 E
CAT 3/20	Rapid	15-1/2 P	17 Q	3 C
CAT 3/20	Medium	16-1/2 Q	18-1/4 S	6 F
CAT 3/20	Slow	18-1/4 S	20 T	9 I
CAT 3/30	Rapid	15-1/2 X	17 Z	3 E
CAT 3/30	Medium	16-1/2 Y	18-1/4 BB	6 I
CAT 3/30	Slow	18-1/4 BB	20 DD	9 N
CAT 3/40	Rapid	15-1/2 EE	17 HH	3 F
CAT 3/40	Medium	16-1/2 GG	18-1/4 KK	6 L
CAT 3/40	Slow	18-1/4 KK	20 NN	9 R
CAT 4/10	Rapid	19 J	21 K	3 B
CAT 4/10	Medium	20-1/4 K	22-1/4 L	6 C
CAT 4/10	Slow	22 K	24 L	9 E
CAT 4/20	Rapid	19 S	21 U	3 C
CAT 4/20	Medium	20-1/4 U	22-1/4 W	6 F
CAT 4/20	Slow	22 V	24 X	9 I
CAT 4/30	Rapid	19 CC	21 FF	3 E
CAT 4/30	Medium	20-1/4 EE	22-1/4 HH	6 I
CAT 4/30	Slow	22 GG	24 JJ	9 N
CAT 4/40	Rapid	19 LL	21 PP	3 F
CAT 4/40	Medium	20-1/4 OO	22-1/4 SS	6 L
CAT 4/40	Slow	22 RR	24 WW	9 R

DECISION ARCS

Lancaster County
(Use Upper Neck Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/ Clearance Time Arc
CAT 1-4/10	Immediate	1 A
CAT 1-4/10	Rapid	3-1/4 B
CAT 1-4/10	Medium	6-1/4 D
CAT 1-4/10	Slow	9-1/4 E
CAT 1-4/20	Immediate	1 A
CAT 1-4/20	Rapid	3-1/4 D
CAT 1-4/20	Medium	6-1/4 G
CAT 1-4/20	Slow	9-1/4 J
CAT 1-4/30	Immediate	1 B
CAT 1-4/30	Rapid	3-14 E
CAT 1-4/30	Medium	6-1/4 J
CAT 1-4/30	Slow	9-1/4 N
CAT 1-4/40	Immediate	1 **B**
CAT 1-4/40	Rapid	3-1/4 G
CAT 1-4/40	Medium	6-1/4 M
CAT 1-4/40	Slow	9-1/4 S

DECISION ARCS
Mathews County
(Use Upper Neck Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/ Clearance Time Arc
CAT 1-2/10	Immediate	1-1/2 A
CAT 1-2/10	Rapid	3-1/4 B
CAT 1-2/10	Medium	6-1/4 D
CAT 1-2/10	Slow	9-1/4 E
CAT 1-2/20	Immediate	1-1/2 B
CAT 1-2/20	Rapid	3-1/4 D
CAT 1-2/20	Medium	6-1/4 G
CAT 1-2/20	Slow	9-1/4 J
CAT 1-2/30	Immediate	1-1/2 C
CAT 1-2/30	Rapid	3-1/4 E
CAT 1-2/30	Medium	6-1/4 J
CAT 1-2/30	Slow	9-1/4 N
CAT 1-2/40	Immediate	1-1/2 C
CAT 1-2/40	Rapid	3-1/4 G
CAT 1-2/40	Medium	6-1/4 M
CAT 1-2/40	Slow	9-1/4 S
CAT 3-4/10	Immediate	1-3/4 A
CAT 3-4/10	Rapid	3-1/4 B
CAT 3-4/10	Medium	6-1/4 D
CAT 3-4/10	Slow	9-1/4 E
CAT 3-4/20	Immediate	1-3/4 B
CAT 3-4/20	Rapid	3-1/4 D
CAT 3-4/20	Medium	6-1/4 G
CAT 3-4/20	Slow	9-1/4 J
CAT 3-4/30	Immediate	1-3/4 C
CAT 3-4/30	Rapid	3-1/4 E
CAT 3-4/30	Medium	6-1/4 J
CAT 3-4/30	Slow	9-1/4 N
CAT 3-4/40	Immediate	1-3/4 D
CAT 3-4/40	Rapid	3-1/4 G
CAT 3-4/40	Medium	6-1/4 M
CAT 3-4/40	Slow	9-1/4 S

DECISION ARCS
Middlesex County
(Use Upper Neck Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/ Clearance Time Arc
CAT 1-4/10	Immediate	2 A
CAT 1-4/10	Rapid	3-1/4 B
CAT 1-4/10	Medium	6-1/4 D
CAT 1-4/10	Slow	9-1/4 E
CAT 1-4/20	Immediate	2 B
CAT 1-4/20	Rapid	3-1/4 D
CAT 1-4/20	Medium	6-1/4 G
CAT 1-4/20	Slow	9-1/4 J
CAT 1-4/30	Immediate	2 C
CAT 1-4/30	Rapid	3-1/4 E
CAT 1-4/30	Medium	6-1/4 J
CAT 1-4/30	Slow	9-1/4 N
CAT 1-4/40	Immediate	2 D
CAT 1-4/40	Rapid	3-1/4 G
CAT 1-4/40	Medium	6-1/4 M
CAT 1-4/40	Slow	9-1/4 S

DECISION ARC
Newport News
(Use Tidewater Area Decision Arc Map)

Storm Category/ Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/Clearance Time Arc Coastal Seasonal Occ. Low	High	(Local Movements Not on I-64)
CAT 1-2/10	Rapid	9-3/4 E	11-1/2 F	3 B
CAT 1-2/10	Medium	10-1/2 F	12-1/4 G	6 C
CAT 1-2/10	Slow	11-3/4 G	13-1/2 G	9 E
CAT 1-2/20	Rapid	9-3/4 J	11-1/2 L	3 C
CAT 1-2/20	Medium	10-1/2 K	12-1/4 M	6 F
CAT 1-2/20	Slow	11-3/4 L	13-1/2 N	9 I
CAT 1-2/30	Rapid	9-3/4 O	11-1/2 R	3 E
CAT 1-2/30	Medium	10-1/2 P	12-1/4 S	6 I
CAT 1-2/30	Slow	11-3/4 R	13-1/2 U	9 N
CAT 1-2/40	Rapid	9-3/4 T	11-1/2 W	3 F
CAT 1-2/40	Medium	10-1/2 U	12-1/4 Y	6 L
CAT 1-2/40	Slow	11-3/4 X	13-1/2 AA	9 R
CAT 3-4/10	Rapid	19-1/2 J	21-1/2 K	3 B
CAT 3-4/10	Medium	20-1/4 K	22-1/4 L	6 C
CAT 3-4/10	Slow	21-1/2 K	23-1/2 L	9 E
CAT 3-4/20	Rapid	19-1/2 T	21-1/2 V	3 C
CAT 3-4/20	Medium	20-1/4 U	22-1/4 W	6 F
CAT 3-4/20	Slow	21-1/2 V	23-1/2 X	9 I
CAT 3-4/30	Rapid	19-1/2 DD	21-1/2 GG	3 E
CAT 3-4/30	Medium	20-1/4 EE	22-1/4 HH	6 I
CAT 3-4/30	Slow	21-1/2 GG	12-1/2JJ	9 N
CAT 3-4/40	Rapid	19-1/2 MM	21-1/2 QQ	3 F
CAT 3-4/40	Medium	20-1/2 OO	22-1/4 SS	6 L
CAT 3-4/40	Slow	21-1/2 QQ	23-1/2 UU	9 R

DECISION ARC
Norfolk
(Use Tidewater Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/Clearance Time Arc Seasonal Occupancy Low	High
CAT 1-2/10	Rapid	7-3/4 D*	9-3/4 E*
CAT 1-2/10	Medium	9-1/4 E*	11 F*
CAT 1-2/10	Slow	11-1/4 F*	13-1/4 G*
CAT 1-2/20	Rapid	7-3/4 H*	9-3/4 J*
CAT 1-2/20	Medium	9-1/4 J*	11 K*
CAT 1-2/20	Slow	11-1/4 L*	13-1/4 N*
CAT 1-2/30	Rapid	7-3/4 L*	9-3/4 O*
CAT 1-2/30	Medium	9-1/4 N*	11 Q*
CAT 1-2/30	Slow	11-1/4 Q*	13-1/4 T*
CAT 1-2/40	Rapid	7-3/4 P*	9-3/4 T*
CAT 1-2/40	Medium	9-1/4 S*	11 V*
CAT 1-2/40	Slow	11-1/4 W*	13-1/4 AA*
CAT 3/10	Rapid	13-3/4 G*	15-3/4 H*
CAT 3/10	Medium	15 H*	17 I*
CAT 3/10	Slow	17 I*	19-1/4 J*
CAT 3/20	Rapid	13-3/4 N*	15-3/4 P*
CAT 3/20	Medium	15 O*	17 Q*
CAT 3/20	Slow	17 Q*	19-1/4 T*
CAT 3/30	Rapid	13-3/4 U*	15-3/4 X*
CAT 3/30	Medium	15 W*	17 Z*
CAT 3/30	Slow	17 Z*	19-1/4 CC*
CAT 3/40	Rapid	13-3/4 BB*	15-3/4 FF*
CAT 3/40	Medium	15 DD*	17 HH*
CAT 3/40	Slow	17 HH*	19-1/4 MM*
CAT 4/10	Rapid	16-1/4 I**	18-1/1 J*
CAT 4/10	Medium	17-1/2 I**	20 J*
CAT 4/10	Slow	19-3/4 J**	22 K*
CAT 4/20	Rapid	16-1/4 Q*	18-1/2 S*
CAT 4/20	Medium	17-1/2 R*	20 T*
CAT 4/20	Slow	19-3/4 T*	22 V*
CAT 4/30	Rapid	16-1/4 Y*	18-1/2 BB*
CAT 4/30	Medium	17-1/2 AA*	20 DD*
CAT 4/30	Slow	19-3/4 DD*	22 GG*
CAT 4/40	Rapid	16-1/4 GG*	18-1/2 KK*
CAT 4/40	Medium	17-1/2 II*	20 NN*
CAT 4/40	Slow	19-3/4 NN*	22 RR*

* Local decision-makers should examine decision arcs for Hampton for this scenario.

DECISION ARCS
Northampton County
(Use Eastern Shore Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/Clearance Time Arc Seasonal Occupancy Low	High
CAT 1-2/10	Rapid	6-1/2 D	9 E
CAT 1-2/10	Medium	7-1/4 D	9-1/2 E
CAT 1-2/10	Slow	9-3/4 E	10-3/4 F
CAT 1-2/20	Rapid	6-1/2 G	9 I
CAT 1-2/20	Medium	7-1/4 H	9-1/2 J
CAT 1-2/20	Slow	9-3/4 J	10-3/4 K
CAT 1-2/30	Rapid	6-1/2 J	9 N
CAT 1-2/30	Medium	7-1/4 K	9-1/2 O
CAT 1-2/30	Slow	9-3/4 O	10-3/4 Q
CAT 1-2/40	Rapid	6-1/2 M	9 R
CAT 1-2/40	Medium	7-1/4 O	9-1/2 S
CAT 1-2/40	Slow	9-3/4 T	10-3/4 V
CAT 3-4/10	Rapid	7-1/4 D	9-3/4 E
CAT 3-4/10	Medium	8 D	10-1/4 E
CAT 3-4/10	Slow	9-3/4 E	11-1/4 F
CAT 3-4/20	Rapid	7-1/4 H	9-3/4 J
CAT 3-4/20	Medium	8 H	10-1/4 K
CAT 3-4/20	Slow	9-3/4 J	11-1/4 L
CAT 3-4/30	Rapid	7-1/4 K	9-3/4 O
CAT 3-4/30	Medium	8 L	10-1/4 P
CAT 3-4/30	Slow	9-3/4 O	11-1/4 Q
CAT 3-4/40	Rapid	7-1/4 O	9-3/4 T
CAT 3-4/40	Medium	8 P	10-1/4 U
CAT 3-4/40	Slow	9-3/4 T	11-1/4 W

DECISION ARCS
Northumberland County
(Use Upper Neck Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/ Clearance Time Arc
CAT 1-4/10	Immediate	1 S
CAT 1-4/10	Rapid	3-1/4 B
CAT 1-4/10	Medium	6-1/4 D
CAT 1-4/10	Slow	9-1/4 E
CAT 1-4/20	Immediate	1 A
CAT 1-4/20	Rapid	3-1/4 D
CAT 1-4/20	Medium	6-1/4 G
CAT 1-4/20	Slow	9-1/4 J
CAT 1-4/30	Immediate	1 B
CAT 1-4/30	Rapid	3-1/4 E
CAT 1-4/30	Medium	6-1/4 J
CAT 1-4/30	Slow	9-1/4 N
CAT 1-4/40	Immediate	1 B
CAT 1-4/40	Rapid	3-1/4 G
CAT 1-4/40	Medium	6-1/4 M
CAT 1-4/40	Slow	9-1/4 S

DECISION ARCS
Poquoson
(Use Tidewater Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours*/ Clearance Time Arc
CAT 1/10	Rapid	3 B
CAT 1/10	Medium	6 C
CAT 1/10	Slow	9 E
CAT 1/20	Rapid	3 C
CAT 1/20	Medium	6 F
CAT 1/20	Slow	9 I
CAT 1/30	Rapid	3 E
CAT 1/30	Medium	6 I
CAT 1/30	Slow	9 N
CAT 1/40	Rapid	3 F
CAT 1/40	Medium	6 L
CAT 1/40	Slow	9 R
CAT 2-4/10	Rapid	4-1/2 C
CAT 2-4/10	Medium	6 C
CAT 2-4/10	Slow	9 E
CAT 2-4/20	Rapid	4-1/2 E
CAT 2-4/20	Medium	6 F
CAT 2-4/20	Slow	9 I
CAT 2-4/30	Rapid	4-1/2 G
CAT 2-4/30	Medium	6 I
CAT 2-4/30	Slow	9 N
CAT 2-4/40	Rapid	4-1/2 I
CAT 2-4/40	Medium	6 L
CAT 2-4/40	Slow	9 R

* Local decision-makers should be aware of Hampton decision arcs for Hampton for all scenarios.

DECISION ARCS
Portsmouth
(Use Tidewater Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/Clearance Time Arc Coastal Seasonal Occupancy Low	High
CAT 1/10	Rapid	3-1/4 B	3-1/4 B
CAT 1/10	Medium	6-1/4 D	6-1/4 D
CAT 1/10	Slow	9-1/4 E	9-1/4 E
CAT 1/20	Rapid	3-1/4 D	3-1/4 D
CAT 1/20	Medium	6-1/4 G	6-1/4 G
CAT 1/20	Slow	9-1/4 J	9-1/4 J
CAT 1/30	Rapid	3-1/4 E	3-1/4 E
CAT 1/30	Medium	6-1/4 J	6-1/4 J
CAT 1/30	Slow	9-1/4 N	9-1/4 N
CAT 1/40	Rapid	3-1/4 H	3-1.4 H
CAT 1/40	Medium	6-1/4 M	6-1/4 M
CAT 1/40	Slow	9-1/4 S	9-1/4 S
CAT 2-3/10	Rapid	3-1/4 B	3-1/2 B
CAT 2-3/10	Medium	6-1/4 D	6-1/4 D
CAT 2-3/10	Slow	9-1/4 E	9-1/4 E
CAT 2-3/20	Rapid	3-1/4 D	3-1/2 D
CAT 2-3/20	Medium	6-1/4 G	6-1/4 G
CAT 2-3/20	Slow	9-1/4 J	9-1/4 J
CAT 2-3/30	Rapid	3-1/4 E	3-1/2 F
CAT 2-3/30	Medium	6-1/4 J	6-1/4 J
CAT 2-3/30	Slow	9-1/4 N	9-1/4 N
CAT 2-3/40	Rapid	3-1/4 H	3-1/2 H
CAT 2-3/40	Medium	6-1/4 M	6-1/4 M
CAT 2-3/40	Slow	9-1/4 S	9-1/4 S
CAT 4/10	Rapid	5 C	5-1/2 C
CAT 4/10	Medium	6-1/4 D	6-1/2 D
CAT 4/10	Slow	9-1/4 E	9-1/4 E
CAT 4/20	Rapid	5 E	5-1/2 F
CAT 4/20	Medium	6-1/4 G	6-1/2 G
CAT 4/20	Slow	9-1/4 J	9-1/4 J
CAT 4/30	Rapid	5 H	5-1/2 I
CAT 4/30	Medium	6-1/4 J	6-1/2 J
CAT 4/30	Slow	9-1/4 N	9-1/4 N
CAT 4/40	Rapid	5 J	51-2 K
CAT 4/40	Medium	6-1/4 M	6-1/2 M
CAT 4/40	Slow	9-1/4 S	9-1/4 S

DECISION ARCS
Richmond County
(Use Upper Neck Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/ Clearance Time Arc
CAT 1-4/10	Immediate	1 A
CAT 1-4/10	Rapid	3-1/4 B
CAT 1-4/10	Medium	6-1/4 D
CAT 1-4/10	Slow	9-1/4 E
CAT 1-4/20	Immediate	1 A
CAT 1-4/20	Rapid	3-1/4 D
CAT 1-4/20	Medium	6-1/4 G
CAT 1-4/20	Slow	9-1/4 J
CAT 1-4/30	Immediate	1 B
CAT 1-4/30	Rapid	3-14 E
CAT 1-4/30	Medium	6-1/4 J
CAT 1-4/30	Slow	9-1/4 N
CAT 1-4/40	Immediate	1 **B**
CAT 1-4/40	Rapid	3-1/4 G
CAT 1-4/40	Medium	6-1/4 M
CAT 1-4/40	Slow	9-1/4 S

DECISION ARCS
Suffolk
(Use Tidewater Area Decision Arc Map)

Storm Category/ Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/Clearance Time Arc Coastal Seasonal Occ. Low	Coastal Seasonal Occ. High	Local Movements Only
CAT 1/10	Rapid	4 B	7-1/2 D	3 B
CAT 1/10	Medium	6 C	8-1/2 E	6 C
CAT 1/10	Slow	9 E	9-3/4 E	9 E
CAT 1/20	Rapid	4 D	9-1/2 H	3 C
CAT 1/20	Medium	6 F	8-1/4 I	6 F
CAT 1/20	Slow	9 I	9-3/4 J	9 I
CAT 1/30	Rapid	4 F	7-1/2 L	3 E
CAT 1/30	Medium	6 I	8-1/4 M	6 I
CAT 1/30	Slow	9 N	9-3/4 O	9 N
CAT 1/40	Rapid	4 H	7-1/2 O	3 F
CAT 1/40	Medium	6 L	8-1/4 Q	6 L
CAT 1/40	Slow	9 R	9-3/4 T	9 R
CAT 2-3/10	Rapid	5-1/2 C	10-1/2 F	3 B
CAT 2-3/10	Medium	7 D	11-1/4 F	6 C
CAT 2-3/10	Slow	9-1/4 E	12-1/2 G	9 E
CAT 2-3/20	Rapid	5-1/2 F	10-1/2 K	3 C
CAT 2-3/20	Medium	7 H	11-1/4 L	6 F
CAT 2-3/20	Slow	9-1/4 J	12-1/2 M	9 I
CAT 2-3/30	Rapid	5-1/2 I	10-1/2 P	3 E
CAT 2-3/30	Medium	7 K	11-1/4 Q	6 I
CAT 2-3/30	Slow	9-1/4 N	12-1/2 S	9 N
CAT 2-3/40	Rapid	5-1/2 K	10-1/2 U	3 F
CAT 2-3/40	Medium	7 N	11-1/4 W	6 L
CAT 2-3/40	Slow	9-1/4 S	12-1/2 Y	9 R
CAT 4/10	Rapid	7-1/4 D	13-1/2 G	3 B
CAT 4/10	Medium	8-1/4 E	14-1/2 H	6 C
CAT 4/10	Slow	9-1/2 E	15-1/2 H	9 E
CAT 4/20	Rapid	7-1/4 H	13-1/2 N	3 C
CAT 4/20	Medium	8-1/4 H	14-1/2 O	6 F
CAT 4/20	Slow	9-1/2 J	15-1/2 P	9 I
CAT 4/30	Rapid	7-1/4 L	13-1/2 U	3 E
CAT 4/30	Medium	8-1/2 M	14-1/4 V	6 I
CAT 4/30	Slow	9-1/2 O	15-1/2 X	9 N
CAT 4/40	Rapid	7-1/4 O	13-1/2 AA	3 F
CAT 4/40	Medium	8-1/4 Q	14-1/4 CC	6 L
CAT 4/40	Slow	9-1/2 S	15-1/2 EE	9 R

DECISION ARCS
Westmoreland County
(Use Upper Neck Area Decision Arc Map)

Storm Category/Forward Speed (in Knots)	Evacuee Response	Clearance Time in Hours/ Clearance Time Arc
CAT 1-4/10	Immediate	1 A
CAT 1-4/10	Rapid	3-1/4 B
CAT 1-4/10	Medium	6-1/4 D
CAT 1-4/10	Slow	9-1/4 E
CAT 1-4/20	Immediate	1 A
CAT 1-4/20	Rapid	3-1/4 D
CAT 1-4/20	Medium	6-1/4 G
CAT 1-4/20	Slow	9-1/4 J
CAT 1-4/30	Immediate	1 B
CAT 1-4/30	Rapid	3-14 E
CAT 1-4/30	Medium	6-1/4 J
CAT 1-4/30	Slow	9-1/4 N
CAT 1-4/40	Immediate	1 **B**
CAT 1-4/40	Rapid	3-1/4 G
CAT 1-4/40	Medium	6-1/4 M
CAT 1-4/40	Slow	9-1/4 S

Figure 1.
STORM Overlay

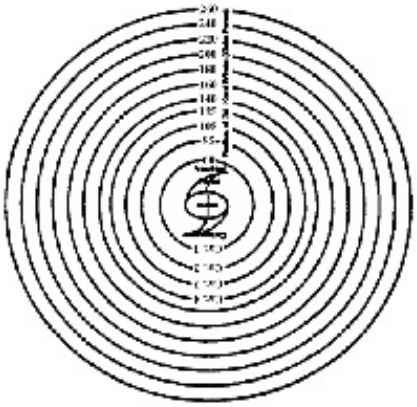
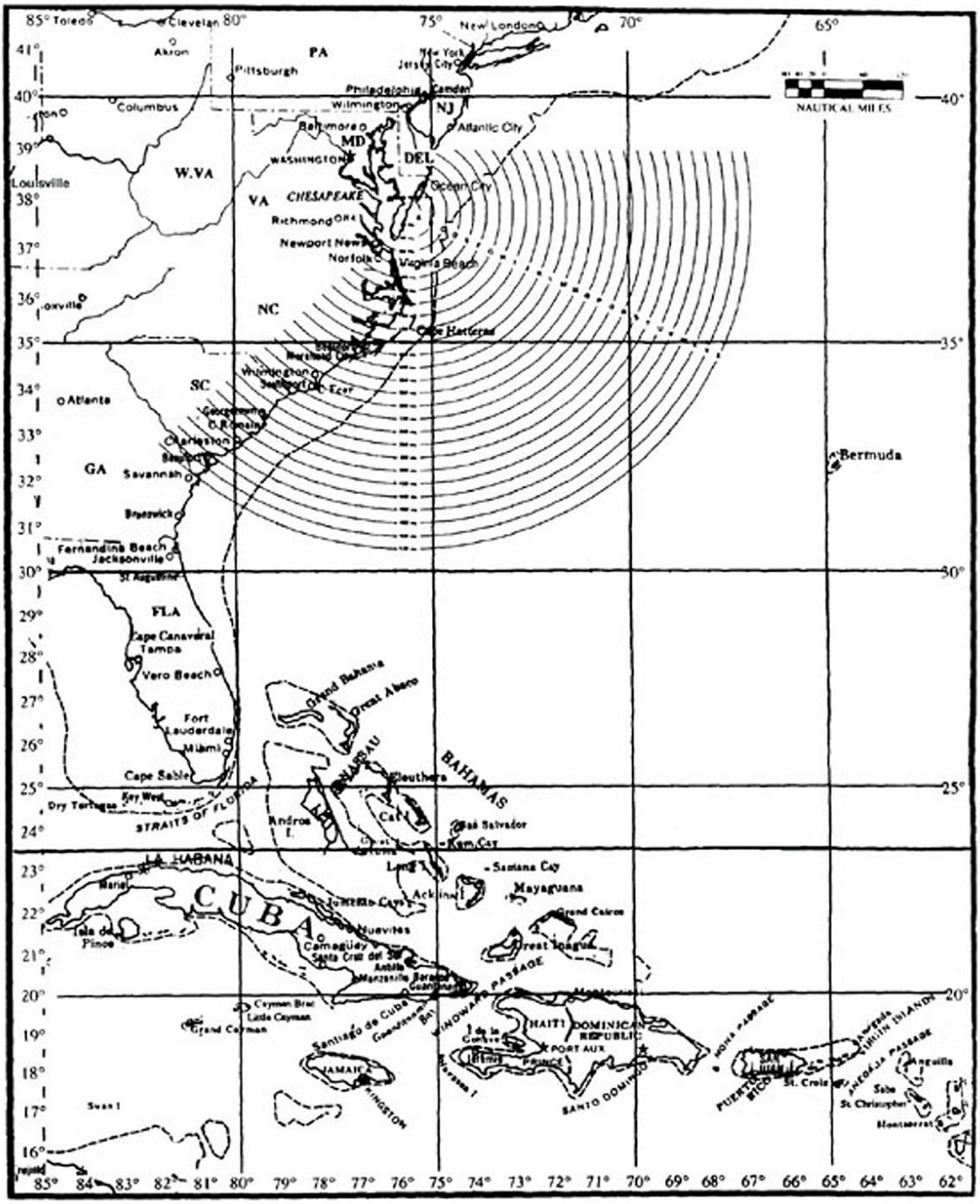
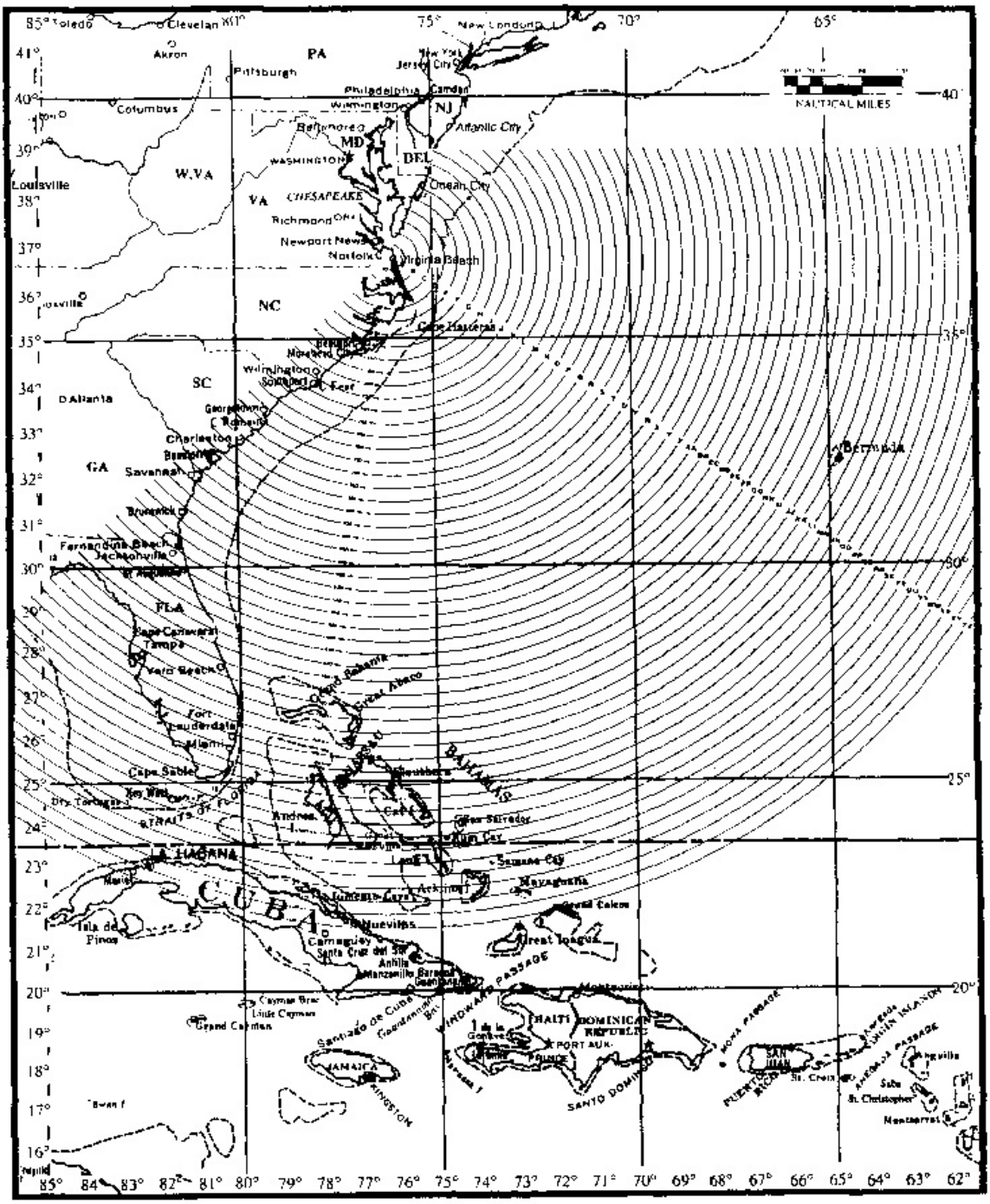


Figure 7-4. STORM Overlay



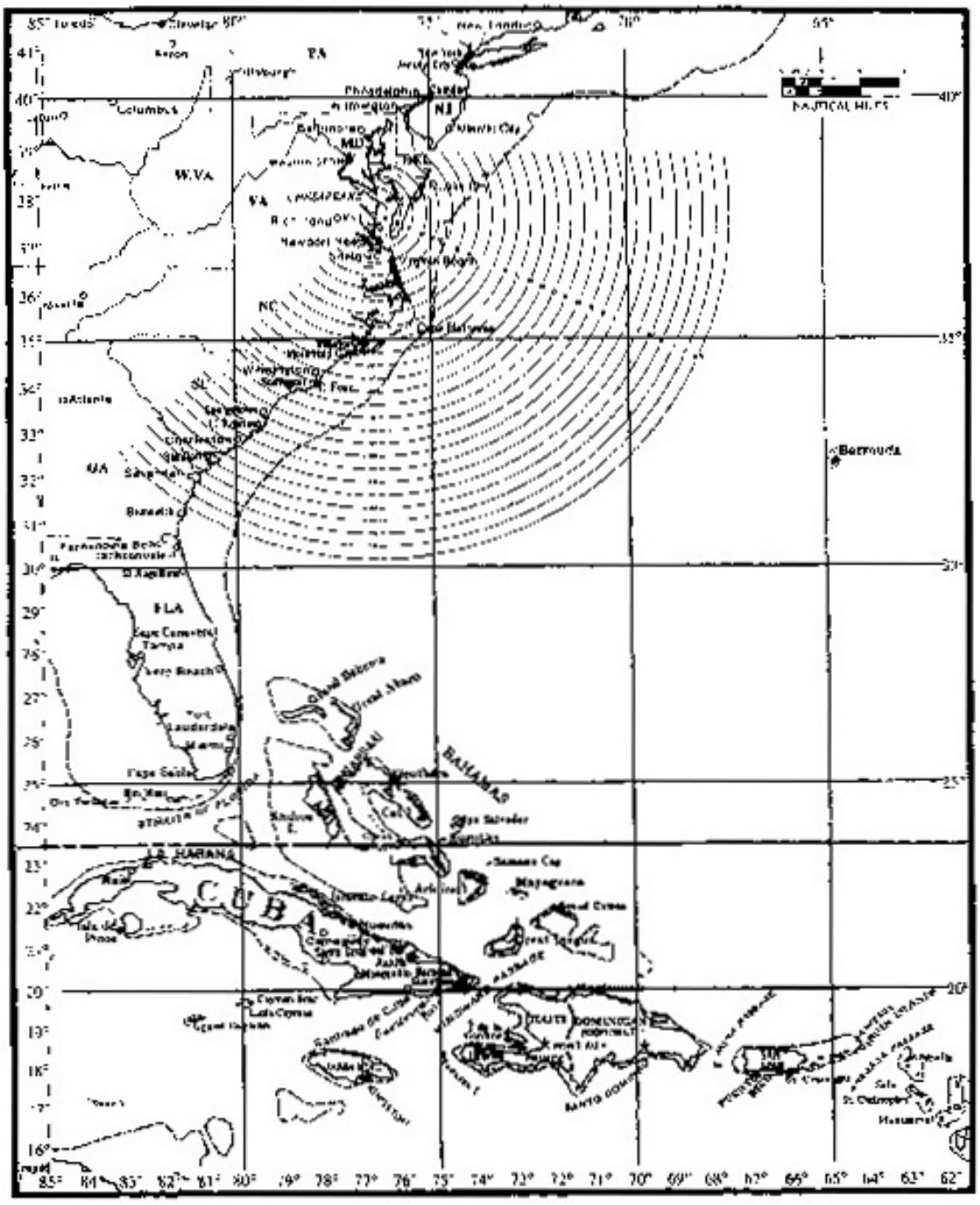
DECISION ARC MAP
VIRGINIA HURRICANE EVACUATION STUDY
Eastern Shore Area

Figure 7-2



DECISION ARC MAP
VIRGINIA HURRICANE EVACUATION STUDY
Tidewater Area

Figure 7-1



DECISION ARC MAP
VIRGINIA HURRICANE EVACUATION STUDY
Upper Neck Area
7-6

Figure 7-3

TIME CONVERSION TABLE

DATE	ZULU TIME	EASTERN DAYLIGHT TIME	
		MILITARY TIME (24HR)	CIVIL TIME (AM/PM)
1ST	0500	(1ST) 0100	(1ST) 1 AM
	0600	0200	2 AM
	0700	0300	3 AM
	0800	0400	4 AM
	0900	0500	5 AM
	1000	0600	6 AM
	1100	0700	7 AM
	1200	0800	8 AM
	1300	0900	9 AM
	1400	1000	10 AM
	1500	1100	11 AM
	1600	1200	12 NOON
	1700	1300	1 PM
	1800	1400	2 PM
	1900	1500	3 PM
	2000	1600	4 PM
	2100	1700	5 PM
	2200	1800	6 PM
	2300	1900	7 PM
2ND	0000	2000	8 PM
	0100	2100	9 PM
	0200	2200	10 PM
	0300	2300	11 PM
	0400	(2ND) 0000	12 MIDNIGHT
	0500	(2ND) 0100	(2ND) 1 AM

Functional Annex B:
EVACUATION

MISSION

To provide supplemental guidance and assistance to state agencies and to coastal localities concerning hurricane preparedness and response with an emphasis on the evacuation of residents from potential storm inundation areas in the Hampton Roads region.

CONCEPT OF OPERATIONS

This plan addresses the procedures for coordinating an orderly evacuation should a hurricane threaten coastal Virginia. It does not replace or supersede any local plans nor does it usurp the authority of local governments.

A. The VEOC will be fully operational in the event of an approaching hurricane. It will:

1. Advise localities, as they are implementing their hurricane plans, concerning evacuation and other protective actions (see Annex A). The VEOC will maintain a storm assessment capability, based on HURREVAC and the "decision arc" methodology presented in the Virginia Hurricane Evacuation Study and will be prepared to assist coastal localities in making an evacuation decision based on their mutual assessment of the storm. The National Weather Service (NWS) will detect a major hurricane in time for protective actions to be taken, to include the evacuation of residents from potential inundation areas if necessary.

2. The specific path of an approaching hurricane cannot be predicted with certainty. The evacuation of urbanized coastal areas must be initiated well in advance--in some cases as much as 27 hours in advance, in order to be completed before the arrival of tropical storm conditions. Thus, the Governor and local officials have an inherent dilemma: to implement a "sunny day" evacuation in time for evacuees to travel to a safe area or to wait, knowing that a delayed evacuation may result in a serious threat to public safety. Obviously, each storm situation must be evaluated carefully. Close consultation with the NWS, the VEOC, and the EOCs of adjacent and nearby localities will be required.

3. The VEOC and participating state agencies should prepare action checklists to facilitate emergency operations. Local hurricane response plans should also include detailed action checklists for each function as needed. These checklists will serve as a guide for actions to be taken as a storm approaches.

4. Coordinate with host localities to facilitate the reception and care of evacuees traveling inland and seeking safe destinations in public shelters as needed (see Annex D).

5. The VDOT Emergency Operations Center (TEOC) in Richmond and the VDOT Smart Traffic Center in Virginia Beach will be fully operational and will work directly with the Virginia State Police and local law enforcement officials to facilitate evacuation and traffic control (see Annexes B and C).

6. If a large-scale evacuation is required, the VDOT Hampton Roads Hurricane Evacuation Traffic Control Plan will be implemented and monitored at the Smart Traffic Center in Virginia Beach (see Annex C). This plan provides for a Phased Evacuation that further provides for a Lane Reversal Phase (Contra Flow) as may be authorized by the Governor. Its operation may include liaison personnel from VDEM and other state/local agencies, as required. Its primary task will be to facilitate traffic movement in the event of a large-scale evacuation from Hampton Roads. The VEOC will maintain close and direct coordination with local EOCs. The VDOT Hampton Roads Hurricane Evacuation Traffic Control Plan identifies evacuation routes and limits access, based on the maximum capacity of each route. Evacuation routes will be monitored by the Virginia State Police and closed at appropriate points as the approaching hurricane causes high winds and/or rising water. Local governments will be responsible for traffic control within their jurisdictions, to include (if necessary) clearing the roads just before the arrival of tropical storm force winds.

   The key persons who should evacuate are those that:

   Live in potential storm inundation areas
   Live in mobile homes
   Medically fragile – require water and or electricity to sustain life

   Others should shelter in-place and be prepared to ride out the storm and be self-sufficient for several days without outside sources of electric power or water. An active hurricane awareness program is needed. Persons who are well informed about the hurricane hazard will be better prepared to take the appropriate protective actions (see Annex E).

C. The organization and assignment of primary and secondary emergency response duties and responsibilities are listed in the State EOP, Volume 1: Basic Plan. Listed below is an appropriately coordinated extension of these task assignments as related to the hurricane hazard.

1. Governor

   a. Declare a State of Emergency.

   b. Order a mandatory evacuation of hurricane risk areas. This authority may be delegated to other state officials or to local officials.

c. Direct the use of state personnel and resources as needed to assist local governments with emergency operations in the event of a major hurricane.

d. Authorize a reimbursement to host localities to cover the costs of opening public shelters to receive and care for hurricane evacuees.

e. Request the assistance of the federal government as needed.

2. State Coordinator of Emergency Management, Department of Emergency Management (VDEM).

a. Operate the VEOC and provide for a coordinated state-level response, on behalf of the Governor, to assist localities with hurricane response and recovery operations.

b. Serve as the Governor's executive agent in authorizing needed actions and expenditures.

c. Coordinate with federal government agencies, including the Department of Homeland Security\Federal Emergency Management Agency (DHS\FEMA) and the National Weather Center/National Hurricane Center.

d. Keep the Governor and other key state government officials informed about the status of emergency response and recovery operations.

e. Advise the Governor as to the recommended level of evacuation as appropriate for the threat.

3. Department of Transportation (VDOT)

a. Develop and maintain the Hampton Roads Hurricane Evacuation Traffic Control Plan (see Annex C).

b. Implement the Traffic Control Plan to manage the controlled evacuation of potential inundation areas threatened by a hurricane.

c. Operate the Smart Traffic Center in Virginia Beach and the TEOC in Richmond. Keep the VEOC and local EOCs advised of the traffic situation.

d. Coordinate the closure of high-risk roadways such as bridges, tunnels, or flood-prone sections of roadway as indicated in the Transportation Emergency Operations Plan (State EOP, Volume 7), the Chesapeake Bay Bridge-Tunnel Closure Plan although not designated as an evacuation route, and other protocols for adjusting transportation resources to meet impending emergencies.

e. Coordinate the clearing of traffic from major evacuation routes prior to the arrival of sustained tropical storm force winds.

4. Virginia State Police (VSP)

a. Assist with the implementation of the VDOT Hampton Roads Hurricane Evacuation Traffic Control Plan.

b. Expedite the flow of traffic out of the coastal areas during an evacuation.

c. Control access to evacuation routes during the evacuation.

d. Maintain order and security on designated evacuation routes.

e. Monitor the flow of traffic during the evacuation and keep the State EOC informed of the status.

f. Following the hurricane, and until essential services have been restored, coordinate with local law enforcement officials to control reentry and to provide for security in the devastated areas.

5. Department of Social Services (DSS) and the American Red Cross (ARC)

a. Coordinate the opening of public shelters in coastal localities in accordance with local EOPs.

b. Coordinate the opening of public shelters in host areas in advance of an evacuation directive, in accordance with local EOPs.

c. Provide status reports on the number of public shelters open, the location of open public shelters, the number of public shelter spaces occupied, and the number of public shelter spaces available.

d. Provide status reports on the requests and provision of resources for public sheltering operations.

e. Provide guidance and assistance with the establishment of congregate care centers and temporary housing facilities for people who cannot return to their homes in the devastated area.

6. Department of Health (VDH)

a. Coordinate state resources to assist localities with the evacuation and care of people with special health or medical needs. Health care facilities should prepare

to be self-sufficient. If located in a storm inundation area, they should evacuate to a like-facility. If not, they should be prepared to be self-sufficient for several days without water or electric power.

b. Coordinate state resources to assist localities in providing water, food, and sanitary conditions in public shelters.

D. The primary strategy for dealing with a major hurricane is to evacuate low-lying areas, which will be inundated by the anticipated storm surge. Due to hurricane force winds, residents of mobile homes are also considered at high risk and should evacuate their mobile home and seek shelter in safer buildings. Other residents should assess the potential impacts to their home and be advised to shelter in-place and be prepared to be self-sufficient for several days.

E. A major hurricane is defined as a hurricane in Category 3, 4 or 5 on the Saffir-Simpson Scale of hurricane strength. (A Category 5 storm is possible but not likely in latitudes as far north as Virginia.) Potential storm inundation areas should be evacuated. The winds and storm surge in Category 1 and 2 hurricanes are considered less destructive and would not require wide-scale evacuation (see Appendix 2). Hurricane Fran, for example, was a marginal Category 3 storm as it made landfall on September 5, 1996, near Cape Fear, North Carolina. With sustained winds of 115 mph and a maximum storm surge of 15.4 feet above mean sea level, it destroyed more than 100 beachfront homes.

F. The Commonwealth of Virginia lies in an area vulnerable to hurricanes, although there has not been a severe hurricane to come ashore directly in Virginia for almost 50 years. On average, two Atlantic hurricanes a year come close enough to the Virginia coast to affect detailed monitoring and preparedness activities. The memories and impacts of Hurricane Gloria passing just off the coast in 1985, Hurricane Hugo devastating the Carolinas in 1989, Hurricane Bob skimming the coast in 1991, Hurricane Andrew striking Florida in 1992, Hurricane Bonnie in 1997, and most recently Hurricane Floyd in 1999 and Hurricane Isabel in 2003 have reminded us of our vulnerability. The Virginia coast is a vulnerable target to the direct impact of a major hurricane.

EVACUATION CONSIDERATION GUIDELINES

A. A decision to implement voluntary or mandatory evacuation in hurricane vulnerable coastal localities requires interaction and coordination between local, state, federal, and certain private sector entities. The primary goal of any evacuation is the preservation of life and, to the degree possible, protection of property. Local and state elected officials and governmental executive leadership must carefully balance the potential risks associated with both the decision to evacuate and the method for evacuating against the risk derived from these and other key factors.

B. There are several key indices that ultimately support the evacuation decision process. These are not exclusive and must be individually and collectively analyzed within a wide range of variables related to each specific hurricane event. There exists no single answer to the evacuation based upon an "empirical" scoring of these factors. Each event differs and must be evaluated on its own merits and characteristics.

C. Indicators Requiring Evaluation:

1. National Weather Service forecasts including the degree of agreement/ non-agreement between various models and forecasts.

2. Life/Safety threat posed by either a "go/no-go" decision.

3. HURREVAC and SLOSH modeling including indicators concerning optimal decision timing in light of such factors as available daylight hours, occupancy, road capacity, expected public behavior, and projected flood and wind impacts.

4. Activities of neighboring states/communities, including potential impacts (direct/indirect) on Virginia's road networks.

D. Evacuation Initiators:

There exist three primary initiators for an evacuation:

1. Spontaneous.

2. Local initiated.

3. State initiated.

E. Implementation Process:

1. The decision to evacuate and the decision to implement traffic management procedures are interrelated but not wholly interdependent. In the event of a decision by a neighboring state to evacuate, primarily North Carolina, it may be necessary to implement traffic management strategies due to the impact on Virginia road networks. These strategies may also be implemented in anticipation of a decision to implement voluntary or mandatory evacuation.

2. The decision to order mandatory evacuation rest with the Governor.

3. The ultimate determination of specific locations and timing of evacuations will be accomplished at the local level.

4. A decision to evacuate large numbers of people from vulnerable areas will stress the limited capabilities of roadways available for this purpose, potentially requiring substantial additional time for completion of an evacuation. Consequently evacuation decisions must be initiated as soon as feasible upon recognition of the threat and must continue to function efficiently until completed or terminated.

5. VDEM, in coordination with applicable state agencies (VDOT & VSP) and affected local governments, will assess the need for executing traffic management strategies. VDEM will be responsible for directing the actual implementation of these strategies by state agencies. **It is probable that strategies may be implemented ahead of actual evacuation decisions by the localities depending on external influences.**

6. Some incidences, involving large populations and limited evacuation timing and road network capacities, may necessitate termination of an evacuation prior to its full completion and evacuees still at risk would be directed to "refuges of last resort" as quickly as possible along the evacuation corridor.

TECHNICAL DATA REPORT

A. In April 1992, the U. S. Army Corps of Engineers (USACE) published the Technical Data Report (TDR) for the Virginia Hurricane Evacuation Study. Although a Virginia Hurricane Evacuation **Re-Study** is underway, the 1992 data remains the "data of record" until new data becomes available.) The TDR provides the following information for each coastal locality to serve as a basis for hurricane planning. Data has been updated where possible using the 2000 Census Data.

   1. Large-scale maps that define areas to be evacuated from storm surge inundation.

   2. Clearance time--the time required for evacuees traveling out of the region to clear the study area.

   3. Standard "decision arc" methodology for analyzing any given storm and determining when to evacuate.

   4. An inventory of public shelter facilities in coastal localities.

B. The risk areas include~~s~~ the city of Virginia Beach and the Eastern Shore on the Atlantic Ocean, the Hampton Roads port area, the southern half of the Chesapeake Bay and the tidal peninsulas formed by the James, York, Rappahannock, and Potomac Rivers. The continental shelf and the shallow bay, with its tidal rivers, create a situation conducive to high storm surges. Tidal surge associated with a major hurricane could cause a maximum inundation of almost 23 feet above sea level on the eastern or ocean side of the Eastern Shore and 18+ feet in the port area of Hampton Roads, in addition to the accumulated effects of tide, waves and rainfall.

C. More than 1,500,000 persons live in the Hampton Roads region. The total number (in potential storm inundation areas and mobile homes) who may be advised to evacuate their immediate residence and seek safer locations due to an approaching hurricane ranges from approximately 200,000 (13 %) to 600,000 (40%) depending upon the severity of the storm. In addition, tourist occupancy during the peak summer season, primarily in Virginia Beach and Norfolk may exceed an additional 100,000. Persons without personal transportation within the region is estimated to be at 100,000 and plans are currently under development within each locality to address their evacuation.

D. The Hampton Roads region (including the cities of Virginia Beach, Norfolk, Portsmouth, Newport News, and Hampton) is especially vulnerable to a fast approaching, Hugo-like hurricane because of its relatively dense population and its limited routes of egress. Outbound traffic is likely to be backed up and move very slowly. For example, the U. S. Army Corps of Engineers Evacuation Study estimates that the clearance time for Virginia Beach evacuees during the tourist season would be approximately 27 hours (see Appendix 4) in a worst case scenario.

1. Local officials must be prepared to make a timely decision to evacuate, allowing sufficient time for evacuees to clear the area and travel away from the coast before the arrival of tropical storm force winds.

2. In the heavily populated cities of Hampton Roads there are three distinct evacuation populations:

   a. Those who seek public shelter in their city, including some of those without personal transportation.

   b. Those who seek shelter in local hotels or private homes.

   c. Those who leave the city to seek shelter in homes or hotels in inland localities. Evacuees in the last group may end up staying in public shelters in host localities including some of those without personal transportation mentioned above.

   These groups present different problems for local and state emergency planners.

E. The local government should provide shelter, feeding, medical care, counseling, and security for the evacuees who seek shelter in their city in public shelters. The government should develop a comprehensive shelter plan that provides adequate space, resources, and staff for the maximum number of evacuees for at least 72 hours. The USACE report indicated the shelter space was generally adequate in the coastal areas for the demand. However, since most shelters are operated under American Red Cross (ARC) Guidelines and the ARC has since amended those guidelines some shelters that were previously used are no longer

approved or supported by ARC. This has resulted in a shelter deficiency within the Hampton Roads area.

F. Local government should plan to rely on its own resources for the days immediately following the storm. Disaster relief resources from throughout the country will generally begin to arrive in the devastated area by the third day after landfall. Therefore, local planning efforts should concentrate on preparing checklists, surveying shelters, develop plans for relocating those without transportation, designating and training staff, identifying mitigation and recovery resources, pre-scripting public services announcements, and other activities that will prepare the government and the population to “ride out” the storm and its immediate aftermath.

G. The second group of evacuees relocates to the homes of friends or in hotels within their locality. After the storm, however, they may need extended shelter if their homes are damaged or utilities are disrupted.

H. The third group of evacuees (residents and vacationers that leave the coastal area, including some of those that may not have transportation which the locality has relocated to yet to be determined locations) present different challenges. The foremost issue is transportation. The USACE study estimates the number of vehicles that will be on the roads during an evacuation phase and attempts to determine a “clearance time" for each locality. The clearance time is the time it takes to clear a city or county's roadways of all evacuating traffic and is reflected in Decision Arc methodology (see Annex A, Attachment 2).

I. What becomes of the traffic heading out of the coastal area is dependent upon many factors. As part of the 1992 TDR, interviews with coastal residents who evacuated indicated that most of them reached their destination in less than 30 minutes. If the evacuation notice is issued with plenty of advance time and daylight hours to travel, residents will reach a safe destination. However, if daylight hours for evacuation are limited, or the evacuation routes become clogged, there may be thousands of evacuees stranded along the highways. Therefore, planners must prepare for the possibility that local governments and commercial hotels many miles inland from the threatened area may have to provide short-term sheltering and other human services for coastal evacuees.

J. Although there are clusters of hotels and motels along the evacuation routes, there are not enough rooms to accommodate all evacuees. During the summer, hotels and motels in non-coastal Virginia are about 75 percent full. Those vacationers are not likely to vacate their rooms because of threatening weather off the coast. Therefore, additional shelter spaces will be needed.

K. Participating host localities will be identified and will be prepared to open public shelters for evacuees from the coastal area when requested to do so by the VEOC (see Annex D). Evacuees will be advised via the media during the evacuation of available shelter areas both public and private.

L. It is not expected that shelter centers in host localities will be needed more than a day or two after the storm has passed. Evacuees will be returning to their homes; or if their homes are not habitable, will seek lodging near their homes. Public shelters in or near the area of devastation will remain open for longer-term care as needed.

M. Hospitals, nursing homes, and group residential facilities operated by private or public agencies are required by license to have emergency plans. If they are located in the potential storm surge inundation area, they should have arranged to relocate to a like-facility in a safer area. Otherwise, they should be prepared with their own backup power source, a potable water supply, and backup communications to shelter in place and be self-sufficient for several days.

N. Risk Area Public Shelters

1. Risk localities will open public shelters as part of their preparation for the possible arrival of hurricane-force winds and storm surge flooding. Shelters will operate in accordance with the local EOP's.

2. Risk localities will advise residents who live in storm surge inundation areas and those who live in mobile homes to seek shelter with friends or relatives, in motels and hotels, or in public shelters.

3. Risk localities will notify the VEOC when shelters have been opened and report the status of shelter spaces and number of persons accommodated at least every four hours. Risk localities that cannot open shelters due to storm effects will notify the State EOC.

O. Host Area Shelters

1. The VEOC will keep the host localities informed of the evacuation and shelter situation in the risk areas.

2 When the VEOC has been notified that risk localities are going to order an evacuation, the host localities will be alerted and advised to prepare to open public shelters.

3. Local resources in host localities will direct traffic, as needed, from the evacuation routes to public shelters.

4. Host localities will operate public shelters in accordance with their local EOP's.

5. Risk and host localities will continue to report to the VEOC the status of public shelter spaces and evacuees accommodated every four hours.

6. Host localities will continue to accept evacuees as long as they continue to arrive and available space exist.

P. Sequence of Events

The following events are listed generally and may occur in a differing sequence.

1. As the storm approaches, the VEOC and local EOCs will monitor advisories issued by the NWS/National Hurricane Center. They will review plans and procedures.

2. Localities will issue emergency declarations according to weather advisories and as indicated in their local EOPs.

3. Localities will issue emergency preparedness information to the public through the local news media (see Annex E).

4. The Governor will declare a State of Emergency and will issue an Executive Order authorizing localities to direct an evacuation of potential storm inundation areas.

5. The VEOC will notify host localities along the primary evacuation routes of the status of the hurricane and of the evacuation deliberations.

6. Spontaneous evacuation will begin to take place from potential storm surge inundation areas. Hospitals, nursing homes, and other special facilities will implement their emergency plans and procedures. Some will relocate and others will prepare to shelter in place and be self-sufficient for several days.

7. Each threatened locality will determine when to initiate an evacuation in concert with the VEOC and neighboring localities.

8. VDOT will be advised to be prepared to implement the Hampton Roads Hurricane Evacuation Traffic Control Plan.

9. Each threatened coastal locality will prepare to open public shelters.

10. Host localities along primary evacuation routes will be notified of the evacuation decisions and will be prepared to provide for traffic control and public shelter operations.

11. The VEOC will notify the North Carolina State EOC of the decision to evacuate Coastal Virginia. North Carolina will prepare, upon request, to implement the “Barco Diversion Plan” to divert traffic from northbound Routes 168 and 17 to avoid traffic congestion in Southside Hampton Roads.

12. Localities, in consultation with each other and with the VEOC, will issue evacuation directives. Initially a phased evacuation is most likely.

13. VDOT will implement the Hampton Roads Hurricane Evacuation Traffic Control Plan.

14. North Carolina will implement the "Barco Diversion Plan".

15. Localities, both coastal and those along the primary evacuation routes, will prepare to operate "refuges of last resort", as available.

Q. Evacuation Routes

1. Based on evacuation decisions made by localities, VDEM, VDOT and VSP will determine a specific time to implement the Hurricane Evacuation Traffic Control Plan. VDOT and VSP will restrict access to evacuation routes by placing equipment and personnel at entry points to control the number of vehicles entering at each access point. Local personnel will control traffic on routes leading to the designated evacuation routes.

2. The VEOC will notify VDOT/VSP of the specific time that the traffic restrictions will take effect.

3. The VEOC will notify all local EOCs in the risk area and in the host areas.

4. The VEOC will issue evacuation instructions to the public via all available media and VDOT roadside electronic Variable Message Signs, and Highway Advisory Radio (HAR).

5. The VEOC will use the media and VDOT roadside electronic Variable Message Signs and Highway Advisory Radio (HAR) to advise the public of host localities that will operate shelters for people evacuating from the coast.

6. Local officials will issue advisories and provide traffic control on local roads and streets that access the designated evacuation routes in accordance with local plans.

7. VDOT and the Virginia State Police will provide continuous information to the VEOC pertaining to the traffic flow, trouble spots, expected impact on inland traffic, and resource allocation.

8. VDOT will provide information on the location of shelters in host localities (if host shelters are being utilized) via radio and roadside electronic Variable Message Signs.

9. The VEOC JIC will keep the news media and all localities in the state informed and updated on evacuation and shelter information.

10. As the storm develops, VDOT and VSP, in coordination with local officials and the VEOC will determine when to stop the evacuation before driving becomes hazardous,

or prior to sustained tropical storm force winds are expected to affect the evacuation routes.

11. When evacuation routes are closed, local officials will assist motorists off of the evacuation routes and direct them to refuges of last resort.

12. All state and local traffic control officials should be off the roads by the arrival of sustained tropical storm force winds.

R. Stop Evacuation

1. With the arrival of sustained tropical storm force winds, it will no longer be safe for motorists or emergency workers to be outside, even in their own vehicles. Therefore, each coastal locality should issue a separate "stop evacuation" directive two to three hours in advance allowing time for the roads to be cleared.

2. Local law enforcement officials must then facilitate the movement of persons en route to abandon their plans to evacuate further inland and to seek the best available protection nearby. "Refuges of last resort" are recommended to be designated in advance. They are typically public or non-public buildings near evacuation routes, which can withstand heavy winds and will provide a safe haven for a few hours until the storm passes.

3. The local broadcast media will alert en route evacuees when they should seek "refuges of last resort".

4. When a stop evacuation order is given, access to major evacuation routes may be closed. Any residents of potential storm inundation areas who have not yet evacuated must then seek "refuges of last resort" or refuge at other available elevated locations.

5. All state and local traffic control personnel and vehicles should also be off the roads by the arrival of tropical storm force winds.

ACTION CHECKLIST - EVACUATION

The following operations periods will be used in state and local hurricane plans. The need for coordination precludes the use of different time periods or terminology.

Condition 5: Routine Operations

1. Develop SOPs.

2. Conduct periodic exercises of evacuation plans with jurisdictions.

3. Conduct periodic computer-aided hurricane tracking and evacuation tools program training for local and state officials.

4. Localities identify "refuges of last resort" located along evacuation routes

Condition 4: Forecasted Arrival of Tropical Storm Force Winds Within 120 Hours (D-5 to D-3 Days)

1. Establish communications with NWS.

2. Plot and review HURREVAC projections from latest advisories from NHC.

3. Contact risk jurisdictions and alert them that shelter operations may be needed based upon approaching storm forecast conditions.

4. Request 72 hour staffing schedule from each state agency.

6. Continue/complete all Condition 5 activities.

Condition 3: Forecasted Arrival of Tropical Storm Force Winds Within 72 Hours (D-3 Days)

1. Secure and review advisories from NWS.

2. Plot and review HURREVAC projections from latest advisory from NHC.

3. Initiate conference calls with risk jurisdictions to discuss level of evacuation that may be needed.

4. Coordinate traffic issues and the traffic control plan with VDOT and VSP in anticipation of evacuation.

5. Contact host localities and determine which shelter facilities will be available, if needed.

6. Alert VDOT to stage Variable Message Signs along evacuation routes.

7. Governor considers level of evacuation authority for local risk jurisdictions.

8. Localities will begin issuing evacuation information through the local news media.

Condition 2: Forecasted Arrival of Tropical Storm Force Winds Within 48 Hours (D-2 Days)

1. Secure and review advisories from NWS.

2. Review HURREVAC and SLOSH projections from latest advisory from NHC.

3. Conduct conference calls with risk jurisdictions to discuss implementation of Phase One Evacuation per Hampton Roads Hurricane Evacuation Traffic Control Plan.

4. Jurisdictions advise EOC of evacuation decisions and timing.

5. Determine which host locality public shelter facilities to activate, if needed, and issue authorizations as required.

6. Contact VDOT for status of Hurricane Evacuation Traffic Control Plan implementation and traffic flows.

7. Contact VSP for status report on evacuation routes and timing for implementation of the BARCO Plan.

8. Advise VDOT to deploy Variable Message Signs along evacuation routes.

9. Update PIO of current evacuation status.

10. Continue/complete all Condition 3 activities.

Condition 1: Forecasted Arrival of Tropical Storm Force Winds Within 24 Hours (D-1 Day)

1. Secure and review advisories from NWS.

2. Review HURREVAC and SLOSH projections from latest advisory from NHC.

3. Evacuate coastal areas and residents in mobile homes and low-lying areas.

4. Get status reports from VDOT and VSP on traffic flows and road conditions.

5. Conduct conference calls with risk jurisdictions to discuss implementation of Phase Two and/or Lane Reversal (Contra Flow) Evacuation per Hampton Roads Hurricane Evacuation Traffic Control Plan.

6. Update PIO of current evacuation status.

7. Conduct conference calls with risk jurisdictions to discuss potential need to terminate evacuation per Hampton Roads Hurricane Evacuation Traffic Control Plan.

8. If evacuation is not completed within 2 to 3 hours of the arrival of tropical storm force winds motorist should be directed to Shelters or Refuges of Last Resort within each jurisdiction along the evacuation routes.

9. Continue/complete all Condition 2 activities.

Landfall: Arrival of Tropical Storm Force Winds - Departure of Tropical Storm Force Winds

1. Secure and review advisories from NWS.

2. Review HURREVAC projections from latest advisory from NHC.

3. If evacuation is not completed within 2 to 3 hours of the arrival of tropical storm force winds motorist should be directed to Shelters or Refuges of Last Resort within each jurisdiction along the evacuation routes.

4. Monitor shelter needs of public safety personnel along evacuation routes.

5. Conduct conference calls with risk jurisdictions following the departure of tropical storm force winds for status update.

Emergency Relief Phase: Life-Saving Operations and the Restoration of Essential Services

1. Continue to monitor evacuation conditions until reentry is initiated.

2. VDOT and local jurisdictions begin clearing debris from roads to facilitate reentry where safe conditions exist.

3. VSP coordinates with local law enforcement officials to control reentry.

Note: Although coastal localities and the VEOC will be using these hurricane-specific operations periods, others, to include host localities, will not. They may not have separate hurricane plans and will be using the standard operations periods. (Reference the State EOP.) However, the two checklists are not incompatible. If reference is made to the "hours before the arrival of tropical storm force winds," local officials in inland localities can make it work within the context of their own checklists.

Attachment

1. Virginia - North Carolina Border Traffic Control Plan (Barco Plan)

Annex B, Attachment 1

Virginia - North Carolina Border Traffic Control Plan (Barco Plan)

SUMMARY

A. The Virginia-North Carolina Border Traffic Control Plan is intended to provide a framework within which the two states and the affected localities can coordinate actions to deal with the evacuation of areas of both states threatened by hurricanes.

B. Since hurricanes that form in the South Atlantic generally move in a northwest direction, the coastal areas of North Carolina will come under a Hurricane Watch or a Hurricane Warning (issued by the National Weather Service) earlier than the adjacent coastal areas of Virginia. Many of the motorists evacuating the communities on the Outer Banks (Dare and Currituck Counties in NC) travel north on Route 168 and enter Virginia within the limits of the city of Chesapeake. (Route 168 is the marked Hurricane Evacuation Route for the Outer Banks.) From that point, they go to their destination in the Hampton Roads area, or continue through the area on I-64 East or West.

C. This plan outlines procedures for monitoring northbound and westbound traffic in Northeastern North Carolina and Southeastern Virginia, and procedures for initiating actions to adjust northbound evacuation traffic to minimize its effect on the westbound evacuation of Virginia's metropolitan Hampton Roads area. In order for all parties in both states to be aware of situations and actions, it is essential that communications between the VEOC and the North Carolina VEOC take place before any adjustment actions are implemented.

SITUATION

A. The northeastern region of the State of North Carolina includes barrier islands (Outer Banks) and Currituck Sound areas (including Knotts Island) that are vulnerable to hurricanes. Even before the National Weather Services posts Hurricane Warnings, the National Park Service and local governments may initiate Hurricane Warnings for the Outer Banks evacuation. As many as 30,000 vehicles may evacuate from Dare and Currituck Counties. At least half of those vehicles are likely to use northbound Route 168, the Chesapeake Expressway or U. S. 17l. The designated and marked evacuation route for the northern sections of the North Carolina coast (Dare and Currituck Counties) is northbound Route 168 which crosses the state line into Virginia within the limits of the City of Chesapeake.

B. In Southeastern Virginia, the metropolitan area of Hampton Roads, including the cities of Virginia Beach, Chesapeake, Portsmouth, Norfolk, Suffolk, Hampton, Newport News, and Poquoson, is also vulnerable to the effects of hurricanes. The designated and marked evacuation routes for the southern portion of the Hampton Roads area include westbound Interstate 64, which is intersected by the evacuation route from North Carolina (Route 168),

and westbound U. S. 58. As many as 80,000 vehicles may evacuate from the southern portion of the region.

C. Spontaneous evacuation from coastal communities in the Hampton Roads area and North Carolina may occur without a posted Hurricane Warning.

D. The northbound traffic from North Carolina will influence the capacity of the road network in Virginia to handle evacuating traffic from Virginia communities.

ASSUMPTIONS

A. Communication can be established between the two states EOCs and local EOCs in Virginia and North Carolina.

B. The VEOC will determine when to implement the VDOT Hampton Roads Hurricane Evacuation Traffic Control Plan to limit access onto evacuation routes.

C. Virginia municipalities will direct evacuation within their boundaries allowing sufficient time for vehicles to clear the risk areas prior to the arrival of the hurricane.

D. The City of Chesapeake will monitor the traffic flow on the designated evacuation routes within the city limits.

CONCEPT OF OPERATIONS

A. The VEOC will monitor weather advisories from the National Weather Services as they affect the Outer Banks of North Carolina as well as Virginia.

B. The City of Chesapeake, in coordination with the Virginia State Police will monitor traffic in the area around the Virginia - North Carolina Border.

C. The VEOC will establish communications with the State of North Carolina EOC in Raleigh.

D. The Virginia State Police and the City of Chesapeake will establish communications with state and local law enforcement officials in North Carolina and will request that northbound traffic be diverted west of the Chesapeake Expressway, Route 168 and U. S. 17 to allow maximum use of the Virginia evacuation routes for westbound traffic.

E. The City of Chesapeake, in coordination with other cities at risk, will make the decision to direct an evacuation and will notify the VEOC.

F. The VEOC will be notified when traffic diversion has been requested and implemented.

G. When directed by the VEOC, the VDOT, with assistance from the Virginia State Police and local law enforcement will implement the Hampton Roads Hurricane Evacuation Traffic Control Plan.

H. When the Virginia State Police and the City of Chesapeake confirm that normal traffic has been re-established on the westbound routes, they will notify the VEOC.

J. If the impact of the hurricane has resulted in damage or blockage of any roads in the southeastern portion of Virginia, that information will be relayed to the North Carolina State EOC from the VEOC.

ASSIGNMENT OF RESPONSIBILITIES

A. Virginia Department of Emergency Management – VEOC

1. Prior to 36 Hours Before Landfall

   a. Monitor weather advisories from the National Weather Service (National Hurricane Center).

   b. Establish communications with the North Carolina EOC when a Hurricane Watch is posted for the Outer Banks of North Carolina.

   c. Monitor state and local evacuation deliberations in North Carolina and in Virginia.

2. Between 36 Hours and Landfall

   a. Coordinate state resources to facilitate implementation of evacuation plans.

   b. Notify North Carolina EOC of evacuation plans.

   c. Notify the North Carolina EOC upon the decision to implement the regional evacuation plan.

   d. Verify through the Virginia State Police that the northbound traffic has been diverted.

3. After Landfall

   As soon as possible, notify North Carolina EOC of conditions on the Virginia side of the northbound routes.

B. Virginia State Police

1. Prior to 36 Hours Before Landfall:

   a. Monitor traffic flow in the southeastern part of the state from the VEOC.

   b. Receive traffic flow information from state or local law enforcement in Chesapeake.

   c. Coordinate state law enforcement resources to facilitate implementation of evacuation plans.

   d. Establish communication with North Carolina Highway Patrol.

2. Between 36 Hours and Landfall:

   a. When notified that an evacuation has been directed, request North Carolina Highway Patrol to divert traffic south of the Virginia border west past the Chesapeake Expressway, Rt. 168 and U.S. 17 towards I-95 and coordinate with the City of Chesapeake to monitor the diversion.

   b. Keep VEOC informed of traffic along the Virginia-North Carolina border and on the Virginia evacuation routes.

3. After Landfall

   a. Assess damage to roadways and determine if closures are needed.

   b. If roads are damaged or blocked, notify the VEOC.

C. Department of Transportation (Smart Traffic Center – VA Beach)

1. Prior to 36 Hours Before Landfall

   a. Determine status of all evacuation routes, including those Virginia roads used by motorists evacuating from North Carolina (The Chesapeake Expressway, Route 168 and U. S. 17).

   b. Make adjustments to the evacuation plan due to construction or temporary status, as needed.

   c. Notify VEOC of any changes in the evacuation plan.

   d. Coordinate resources to implement the plan.

2. From 36 Hours to Landfall

   a. To coincide with the evacuation directives issued by municipalities, implement the Hampton Roads Hurricane Evacuation Traffic Control Plan.

   b. Monitor the evacuation and notify the VEOC of status regularly.

   c. Communicate directly with North Carolina officials as needed. Notify VEOC.

3. After Landfall

   As soon as possible, report the road conditions to the VEOC.

D. City of Chesapeake

1. Prior to 36 Hours Before Landfall

   a. Monitor weather advisories as they relate to northeast North Carolina as well as the city in accordance with local plans.

   b. Establish communications with VEOC, Virginia State Police, North Carolina Highway Patrol, and neighboring localities in both states.

   c. Implement monitoring system to determine traffic flow on the Chesapeake Expressway and Route 168 and to anticipate traffic problems in accordance with local plans.

   d. Manage traffic on Route 168 in accordance with local plans.

2. From 36 Hours to Landfall

   a. Monitor evacuation deliberations throughout the areas.

   b. When decision to evacuate has been made, contact the VSP to discuss implementation of traffic diversion procedures.

   c. After the VSP has requested the State of North Carolina to divert traffic away from Chesapeake, continue to monitor traffic and report status to the VEOC.

3. After Landfall

   As soon as possible, notify the VEOC of conditions on all routes, including Route 168.

REFERENCES

1. The North Carolina Hurricane Evacuation Study (2003), Federal Emergency Management Agency and U. S. Army Corps of Engineers.

2. The Virginia Hurricane Evacuation Study (1992), Federal Emergency Management Agency and U. S. Army Corps of Engineers.

Functional Annex C:

VIRGINIA DEPARTMENT OF TRANSPORTATION
VIRGINIA STATE POLICE
VIRGINIA ARMY NATIONAL GUARD

HAMPTON ROADS HURRICANE TRAFFIC CONTROL PLAN

TABLE OF CONTENTS

HAMPTON ROADS HURRICANE TRAFFIC CONTROL PLAN

I. Authority

This plan has been prepared in accordance with the Commonwealth of Virginia Emergency Operations Plan (COVEOP) and the Virginia Department of Transportation (VDOT) Emergency Operations Plan. This plan will only be implemented upon order by the Governor of Virginia.

II. Reference

Annex I-FF to Volume II, Virginia Hurricane Emergency Response Plan (HERP), to the COVEOP.

III. Purpose

To provide a framework for use by local emergency service coordinators, state and local police and/or other agencies and groups involved in planning, coordinating and executing an evacuation of the Hampton Roads area.

To assign specific VDOT, Virginia State Police (VSP) and Virginia Army National Guard (VaARNG) roles and responsibilities in order to maximize outbound traffic flow in the event of an evacuation in the Hampton Roads area.

IV. Scope

This plan establishes the traffic control concept, specifies mandatory tasks and provides the basis for coordinating those tasks expected to be accomplished by VDOT, VSP, and VaARNG external agencies and organizations.

V. Situation

This plan design is based on a major hurricane disaster potential. Using data reported in the Technical Data Report of the Virginia Hurricane Study (TDR), it is projected that nearly three quarters of a million people will be at risk and need to evacuate their homes. This population has the potential to generate nearly 300,000 vehicles, all of which are carrying citizens seeking other shelter.

A traffic evacuation of the Hampton Roads area will be difficult. More than 27 hours will be needed to completely evacuate potential traffic volumes generated by the "at

risk" population. The “at risk” population includes residents of the immediate coastal areas, residents in low-lying areas prone to flooding and any resident of a mobile home.

In less severe storms, smaller populations (including tourists) or partial evacuations will be easier and may require less time to evacuate. Nevertheless, the tenets of this plan will be in effect for smaller evacuations as well.

This plan has been designed to be implemented in part or in total to accommodate traffic demand.

VI. Assumptions

Because of the many variables that may affect a storm's tracking, size, intensity and forward speed, sufficient advanced warning time may not be available to completely evacuate the total "at risk" population.

In order to gain the maximum benefit of this traffic control plan, the order to evacuate must be made no less than 24 hours before the projected onset of tropical storm force winds (34-knots/39 mph).

This plan assumes high seasonal population (tourist) and slow public response to an evacuation order. However, it is assumed that the general public will cooperate with local authorities by following instructions.

VII. Mission

The Departments of Transportation and State Police with the Virginia Army National Guard and local governments will implement this plan at the direction of the Governor, with primary emphasis on fostering a safe environment for evacuation. Secondarily, all assigned personnel will concentrate their efforts on ensuring that the maximum traffic flow is maintained at all times. Our goal is to facilitate a safe and effective evacuation prior to the arrival of dangerous weather conditions.

VIII. Organization & Control

A. VDOT

VDOT has established a traffic management center (otherwise known as the Smart Traffic Center – STC) off Indian River Road in Virginia Beach (alternate site is the VDOT Hampton Roads District Office). In the event of a hurricane evacuation, the STC will be staffed by VDOT personnel and may be augmented, as necessary, by liaisons from the Virginia Department of Emergency Management, the Virginia State

Police (VSP), as well as local police and local emergency services coordinators. Primary and back-up communications will be established between the STC, state EOC, VDOT EOC, state and local law enforcement, and all affected local emergency service coordinators. During an evacuation, traffic control and any adjustments to this Plan will be managed and directed by the STC.

B. VSP

The Commanding Officer of the Fifth Division shall bear overall responsibility for the execution of this plan. The Division Five Field Lieutenant will supervise this operation and will coordinate with the Division One Field Lieutenant. Each affected First Sergeant will be held accountable for operations within his/her Area. For the purposes of communication, all essential information will be directed to the Division Five Field Lieutenant so that he/she may effectively coordinate all necessary resources.

Coordination between VSP and local law enforcement agencies will be the responsibility of each Area First Sergeant or his/her designee.

The Division Five Field Lieutenant will maintain ongoing communication with the North Carolina Highway Patrol (NCHP) and Chesapeake Police Department (CPD) to ensure that the evacuees from North Carolina do not unduly interfere with this operation. If the Route 168 corridor becomes congested, the Division Five Field Lieutenant will contact NCHP and CPD in order to require that the Barco Diversion Plan (described in Coordinating Instructions Section A) be implemented. Route 168 will continue to be monitored (as agreed by CPD) during the Barco diversion. Once the queue is cleared, the North Carolina evacuation traffic flow will be restored in conjunction with NCHP and CPD.

During the execution of this plan, all affected Area First Sergeants (in Division One and Division Five) will maintain ongoing communication with their Division's Field Lieutenant in order to provide continuous traffic flow reports.

IX. Concept of Operations

The transportation plan used for evacuation within the Hampton Roads area must be easily communicated and understood, simple to execute and designed to safely maximize outbound roadway capacity. To this end, all appropriate outbound roadways will be used. Site-specific traffic control enhancements will be implemented to modify critical roadway intersections.

All interstate maintenance and construction activities, which reduce capacity of the roadway, will be suspended throughout any evacuation period.

In addition, utilization of the transportation network as a whole must be balanced and demand, to the extent possible, must be safely spread over all available outbound routes. In an effort to avoid over-saturation of outbound interstate evacuation routes, the traffic control plan employs two fundamental concepts. First, an evacuation must be conducted in two distinct, but overlapping phases with plans in place for a possible I-64 lane reversal:

- Phase One will consist primarily of the evacuation of populations deemed most "at risk" in the cities of Hampton, Poquoson, Virginia Beach and Norfolk, as well as the counties of York, the Middle Peninsula (Matthews, Gloucester and Middlesex) and the Northern Neck (Northumberland, Westmorland, Lancaster and Richmond).

- Phase Two will consist primarily of the evacuations of secondary "at risk" populations of the Peninsula including Newport News, the remainder of Hampton, as well as the Southside cities of Chesapeake, Portsmouth and Suffolk.

- This Hurricane Traffic Control Plan has been designed to set the stage for an I-64 lane reversal and will easily segue into implementation of the same. To assist in the evacuation, the plan includes an outline for using all interstate lanes west of the Hampton Roads Bridge Tunnel flowing in an outbound direction towards I-295 in Richmond.

Secondly, traffic must be metered onto the interstate system in order to smooth flow and help prevent over-saturation. Ramp metering will minimize the time necessary for vehicles to clear the Hampton Roads region once on the interstate system. Some ramps may be closed. Access to closed ramps will be limited to use by emergency vehicles only.

A. **PHASE ONE –** Implemented at least 24 and no later than 14 hours prior to the onset of tropical storm force winds (see Annex A).

When instructed, populations are encouraged to evacuate as follows:

1. Virginia Beach

Individuals residing north of I-264 (Virginia Beach-Norfolk Expressway) are encouraged to use I-64 West Outer Loop toward Richmond.

Individuals residing south of I-264 (Virginia Beach-Norfolk Expressway) are encouraged to use I-64 East Inner Loop toward Suffolk.

2. Norfolk

   Individuals residing east of I-64 are encouraged to use I-64 West Outer Loop towards Richmond.

   Individuals residing west of I-64 are encouraged to use I-64 East Inner Loop and I-264 West toward Suffolk.

   There is no access to I-64 from Chesapeake Blvd.

3. Hampton

   Individuals residing in the area east of King Street (Rte. 278) and north of Pembroke Avenue (Rte. 351) are encouraged to use I-64 West toward Richmond (there is access to I-64 West from LaSalle Avenue, I-664 and Mercury Blvd).

   There is no access to I-64 West at Mallory Street or Settlers Landing Road.

   Individuals residing east of King Street and south of Pembroke Avenue (including Fort Monroe) will use Mercury Boulevard/Route 258 South (James River Bridge) to Route 258/32 in Isle of Wight, or Route 143 West to Route 199 (around Williamsburg) to Route 60 West.

   Individuals residing north of Mercury Boulevard, will take Magruder Boulevard and use Route 17 North (crossing over the Coleman Bridge) toward Fredericksburg.

   Langley AFB will evacuate out of their west gate toward Magruder Boulevard South, to I-64 East, and will then use Route 258 South (Mercury Boulevard to James River Bridge) to their evacuation assembly area at the Ft. Pickett Army Barracks.

4. York County and Poquoson

   Residents are encouraged to use Route 17 North (George Washington Highway) toward Fredericksburg.

Residents may also use Route 171 (Victory Boulevard) to I-64 West toward Richmond.

5. Middle Peninsula

   Individuals residing on the Middle Peninsula are encouraged to evacuate along Route 17 North.

6. Northern Neck

   Individuals residing on the Northern Neck are encouraged to evacuate toward Fredericksburg (along Route 17).

7. Eastern Shore

   All residents of Northampton and Accomack counties are encouraged to use Route 13 North as an evacuation route.

B. **PHASE TWO** – Implemented at least 14 hours prior to the onset of tropical storm force winds until the evacuation is terminated (see Annex B).

When instructed, populations are encouraged to evacuate as follows:

1. Portsmouth

   Individuals residing north of I-264 are encouraged to use Route 17 North to Route 258/32 South in Isle of Wight County, and Routes 337 West and 664 North to 17 North then to Route 10 West toward Smithfield.

   Individuals residing south of I-264 are encouraged to use Route 58 (Airline Blvd.) to Route 58/460 West toward Suffolk.

2. Chesapeake

   All residents are encouraged to use I-64 East Inner Loop or I-264 West to Route 58/460 West toward Suffolk or Route 17 North to Route 258/32 to Route 10 West toward Smithfield.

3. Suffolk

   Residents north of Route 125 (Kings Highway) are encouraged to use Route 17 North, to Route 258/32 to Route 10 West toward Smithfield.

4. Newport News

   Residents are encouraged to use Route 143 West (Jefferson Avenue) to Route 199 (around Williamsburg), to Route 60 West or Route 258 South across the James River Bridge to Route 258/32 in Isle of Wight.

5. Hampton

   Individuals residing west of King Street and south of Mercury Boulevard are encouraged to use I-64 West toward Richmond (there is access to I-64 West from LaSalle Avenue, I-664 and Mercury Blvd) or Route 17 North (crossing over the Coleman Bridge) toward Fredericksburg.

   There is no access to I-64 West at Mallory Street or Settlers Landing Road.

   Individuals residing west of Armistead Avenue and north of Mercury Boulevard are encouraged to use Route 17 North (crossing over the Coleman Bridge) toward Fredericksburg.

C. I-64 Reversal

The Governor has authorized the Virginia Department of Emergency Management to develop an evacuation plan using all interstate lanes west of the Hampton Roads Bridge Tunnel flowing in an outbound direction toward I-295 in Richmond. This Hurricane Traffic Control Plan has been designed to set the stage for an I-64 lane reversal and will easily segue into implementation of the same.

Once the order is given to execute this plan, Virginia State Police First Division personnel will shut down the eastbound lanes of Interstate 64 to all traffic as soon as possible. This action will serve to reduce the number of vehicles that will need to be shunted off the Interstate prior to the sweep. Once all interchanges report that sufficient personnel are in place to control traffic, all remaining traffic on the eastbound lanes of Interstate 64 will be directed off at the next exit. The personnel at each interchange will ensure that no traffic, for any reason, gets past their assigned interchange. Each interchange will ensure that the eastbound lanes are clear of all traffic, disabled vehicles, and obstructions. Once all interchanges report that their roadway is clear, the aerial inspection will begin, originating from the Richmond area. If the aircraft is not able to fly, the sweep will be conducted by two VSP marked cars, originating from the Richmond area.

Once the aerial inspection (or vehicle sweep) is completed, two VSP marked cars, with emergency lighting activated, will proceed westbound from the HRBT in the eastbound lanes of travel at a speed of 55 mph. The lead vehicles will coordinate their movements to ensure that traffic does not pass them. The VSP aircraft, if able to fly, will fly overhead to warn of any oncoming traffic. The VSP aircraft will communicate on the local radio channel, not the tactical channel, to ensure communication with any local ground units in a position to stop any vehicles traveling against the reversed traffic flow. Traffic control measures, deemed necessary in order to affect an I-64 reversal, have been incorporated as an appendix to this plan (as shown in Annex E).

Westbound traffic on the south side of the Hampton Roads Bridge Tunnel (HRBT) will be diverted to the eastbound lanes of travel in the vicinity of the 4th View on ramp. The median at this location is paved and capable of supporting a high-speed transition (35+mph). This transition will be accomplished on the south side of the HRBT because the transition can be accomplished at a higher speed than is possible on the north side of the HRBT, according to the VDOT planners. Only traffic entering the westbound lanes of I-64 at 4th View will be allowed to use the westbound tube.

The reversal plan requires that the South Hampton Roads evacuation traffic travels on the reversed roadway. This allows the Peninsula traffic to gain access to the interstate using the normal ramp configurations. The primary benefit here is that we will not need to direct traffic against the normal flow patterns and that additional signing will not be necessary. This will, of course, decrease the level of confusion in the minds of the public on the Peninsula.

The reversed traffic will continue westbound to the end of the reversal at Interstate 295. The eastbound lanes (westbound traffic flow) will be diverted back onto the westbound lanes of travel but will not be able to access Interstate 295 northbound or southbound. The traffic that had previously been on the westbound lanes of travel will have access to Interstate 295 northbound and southbound.

X. Responsibilities/Tasks

A. VDOT Central Office - TEOC

Coordinate the evacuation with affected state agencies; arrange assistance from other districts, as requested.

Coordinate with the US Coast Guard on the lock down of all bridges regionally.

Coordinate with bordering states.

Attempt to minimize the evacuation of other states, principally from North Carolina, into the Hampton Roads area; coordinate with Maryland DOT for an anticipated influx into that area from the Eastern Shore.

B. Richmond District/VSP Division 1

1. Sandston Residency/VSP Areas 1 and 3

Monitor traffic flow* along I-64 West and Route 60 West. Be prepared to implement necessary traffic enhancements; deploying traffic control devices particularly at the I-295 and I-95 interchanges.

VDOT will assist law enforcement in order to help remove stalled vehicles from the travel roadway and shoulders, and provide motorist assistance where possible.

2. Petersburg Residency/VSP Areas 7 and 8

Monitor traffic flow* along Route 460 West. Be prepared to implement necessary traffic enhancements, particularly at the I-295 and I-95 interchanges.

VDOT will assist law enforcement representatives by providing Safety Service Patrols. These patrol vehicles should be equipped with gas, water, tow cables, cushioned bumpers, radio, cellular telephone, etc. in order to help police remove stalled vehicles from the travel roadway and shoulders, and provide motorist assistance where possible.

C. Fredericksburg District/VSP Division 1

Coordinate the evacuation of residents of the Middle Peninsula and Northern Neck areas with local and state police and local emergency service coordinators.

Monitor traffic flow* into the Fredericksburg District. Be prepared to assist with traffic enhancements and law enforcement, particularly along Routes 17 North, 360 West, 3 North and any other designated primary evacuation routes.

D. Hampton Roads District/VSP Division 5

Assume overall responsibility for the traffic evacuation of the Hampton Roads area.

Coordinate with state police in assigning law enforcement personnel to all links along interstate and primary evacuation routes, so as to provide immediate response to incidents.

Notify Hampton Roads local governments and establish communications.

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* Will involve patrolling critical roadway sections, observing and reporting vehicle speeds, approximate travel times, as well as incident types and locations.

E. All Hampton Roads Residencies

Maintain 24-hour operations from the beginning of any evacuation through the implementation of any recovery plan.

Coordinate with local law enforcement, as required, to modify key roadway sections as directed below.

Arrange to have stand-by on-site recovery vehicles at all critical roadway sections.

Designate service patrol (pick-ups) to ride the shoulders along evacuation routes. These vehicles should be equipped with gas, tow cables, push bumpers, etc. to provide motorist assistance where possible.

1. Accomac Residency/VSP Area 31

   If an evacuation is ordered for either Northampton or Accomack Counties, take appropriate action (implement traffic control devices, adjust signal timings, etc.) to maximize northbound flow of traffic along Route 13.

   Report to the Smart Traffic Center when lock down is complete on all drawbridges.

2. Franklin Residency/VSP Area 34

   Monitor traffic flow* on Routes 58 and 460. Be prepared to implement traffic enhancements, as necessary; particularly at intersections, to maximize westbound traffic flow.

3. Norfolk Residency/VSP Areas 32 and 47

Execute the modification to critical interchanges as described in Annex C.

Report to the Smart Traffic Center when lock down is complete on the High Rise Bridge (I-64 in Chesapeake).

4. Waverly Residency/VSP Area 36

   Monitor traffic flow* on Routes 10, 17, 58, 460, 258/32 and I-95. Be prepared to

* Will involve patrolling critical roadway sections, observing and reporting vehicle speeds, approximate travel times, as well as incident types and locations.

implement traffic control to facilitate traffic flow, particularly at intersections to maximize westbound and southbound traffic, respectively.

5. Williamsburg Residency/VSP Area 37

   Be prepared to execute modifications to critical interchanges as deemed necessary.

   Monitor traffic flow* along I-64, Route 17, Route 143, Route 199 and Route 60. Be prepared to implement traffic enhancements as necessary, particularly at intersections to maximize westbound traffic flow.

6. Hampton Roads Tunnel Facilities (ERT, HRBT, MMMBT)/VSP Area 46

   Monitor and maintain essential services at all bridges/tunnels to include power distribution systems, emergency generators, pumps, fans and tunnel lighting.

   The eastbound tunnel of the Hampton Roads Bridge Tunnel (I-64) will be closed to all traffic during Phase One of an evacuation. Motorists traveling on I-64 East will be diverted at I-664 toward the Monitor Merrimac Memorial Bridge Tunnel heading south.

   The Monitor Merrimac Memorial Bridge Tunnel (I-664) will be closed to northbound traffic during Phase One of an evacuation.

   Report to the Smart Traffic Center when lock down on the Coleman, Berkley, and James River Bridges is complete.

   Monitor and activate flood gates, as required.

7. Jamestown Scotland Ferry/VSP Areas 36 and 37

   Follow guidelines as set forth in the Hurricane Response Plan, which is governed by the Captain of the Port of Hampton Roads.

8. Smart Traffic Center/ VSP Area 32

   Establish primary and back-up communications with the state EOC, VDOT EOC,

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* Will involve patrolling critical roadway sections, observing and reporting vehicle speeds, approximate travel times, as well as incident types and locations.

state and local law enforcement, and all affected local emergency service coordinators.

Manage and direct traffic control and any adjustments to this Plan.

Relay information to the public by maintaining contact with local media outlets.

Assist law enforcement representatives by providing Safety Service Patrols (SSP). The vehicles should be equipped with gas, water, tow cables, cushioned bumpers, radios, cellular telephones, etc. to help emergency personnel remove stalled vehicles from travel roadways and shoulders and provide motorist assistance when possible.

XI. Coordinating Instructions

A. Barco Diversion Plan

The Barco Diversion Plan is an agreement between the North Carolina Highway Patrol (NCPD), VSP, and CPD (Chesapeake Police Department) that ensures that Route 168 will not be overwhelmed by evacuation traffic. The plan, when implemented upon the request of VSP, requires that the NCHP divert northbound Route 168 traffic onto westbound Route 158 (toward Elizabeth City). This action will allow the existing traffic queue on Route 168 to dissipate. The diversion will last 30 minutes followed by 30 minutes of normal northbound flow. The diversion will continue in this manner as long as necessary. The duration of diversion cycles may be adjusted upon the agreement of all three affected police agencies (NCHP, VSP, CPD). The primary objective of this agreement is to prevent gridlock on Route 168 and Interstate 64 (Battlefield Boulevard interchange).

B. For the purpose of coordination, this Plan assumes that any ordered evacuation of local military bases will precede (or conform to) the timing and routing of the evacuated population of the area in which the base is located: ex. NAS Norfolk will evacuate with the City of Norfolk; Langley AFB will evacuate with Hampton (inland), etc. Accordingly, VDOT will work with affected state and federal agencies to communicate the tenets of this Plan.

C. A traffic evacuation of the Hampton Roads area will be difficult. More than 27 hours will be needed to completely evacuate potential traffic volumes generated by the "at risk" population. In less severe storms, smaller populations (including tourists) or partial evacuations will be easier and may require less time. Nevertheless, the tenets of this plan will be in effect for smaller evacuations as well.

D. Recognizing that it is likely minimum evacuation time may be available at best, approximately half of the "at risk" population might not be evacuated. In this case, there will come a point in time when Virginia State Police must terminate an evacuation effort. At this point, local emergency services coordinators should expect that motorists will seek refuge.

E. The key to a successful evacuation is an educated and cooperative traveling public. VDOT will work in tandem with localities in coordinating the activities of this Plan.

Residents of Hampton Roads should know in advance:

1. that abandoned or stalled vehicles may be towed or pushed to clear evacuation routes and shoulders

2. that I-64 HOV/Reversible Roadway lanes will be closed to all but emergency vehicles (because their use in the evacuation will only create a bottleneck)

3. that access to the interstate at many "normal" entrances will be controlled to eliminate some merge lanes, thereby accelerating the overall flow of traffic

4. and, that, at some point prior to the arrival of sustained tropical storm force winds, the interstate will become more dangerous than most homes; thereafter, the principal evacuation focus will be to clear the routes and to simultaneously control access to them.

XII. Traffic Control

A. General

For the purpose of coordination, this Plan assumes that any ordered evacuation of local military bases will precede (or conform to) the timing and routing of the evacuated population of the area in which the base is located: ex. NAS Norfolk will evacuate with the City of Norfolk; Langley AFB will evacuate with Hampton (inland), etc. Accordingly, VDOT will work with affected state and federal agencies to communicate the tenets of this Plan.

VDOT's Safety Service Patrol and the VSP will be assigned to sections of the interstate system designated as evacuation routes and will be required to patrol sections of the interstate between interchanges in order to help immediately clear any disabled vehicles that may block the roadway or shoulder.

VSP will coordinate and implement all ramp metering with the assistance of VDOT personnel.

VDOT and the City of Suffolk will modify traffic signal timings of those signals on evacuation routes not under police control, in order to maximize traffic flow in the direction of evacuation. These traffic signals include, but are not limited to:

Route 10/32/258	Benn's Church
Route 10/644	Isle of Wight
Route 10	Smithfield Shopping Center
Route 10/10	Business Smithfield
Route 10/258	Smithfield
Route 17/32/258/669	Isle of Wight
Route 17/135	City of Suffolk
Route 17/626	City of Suffolk
Route 17/744	City of Suffolk
Route 17/627	City of Suffolk
Route 17/628	City of Suffolk
Route 58/58 Business	City of Suffolk
Route 58 Business	Holland Plaza
Route 58/35	Southampton County
Route 58/58 Business	Emporia
Route 60	BASF
Route 143/199	James City County
Route 143/Tam-O-Shanter	James City County

All signals on Routes 17 and 134 in York County
All signals on Route 60 in James City County
All signals on Route 460 and 460 Business
All signals on Route 199 in James City and York Counties

B. Critical Roadway Sections

1. Interstate 64

Traffic will be metered onto I-64 in order to prevent over saturation of this most critical roadway (refer to Annex C for traffic control details).

a. Tunnel Facilities

1. I-64/15th View Interchange – HRBT Control Room

The ramp from Ocean View Avenue at 15th View Street to I-64 West will be closed to traffic by way of VSP and lowering of the traffic gate. Doing this will eliminate a merge point on I-64 and will help to maintain traffic flow.

2. Coleman Bridge – York County

The Coleman Bridge on-call wrecker service will be available to respond and assist in the maintenance of traffic flow at the facility.

The variable message sign (VMS) on Route 17 will be activated by STC with information to facilitate evacuating traffic over the Coleman Bridge.

The authority to lift tolls at the Coleman Bridge facility has been delegated to the Hampton Roads District Administrator; who will exercise this authority as deemed necessary.

Due to wind restrictions, the Chesapeake Bay Bridge Tunnel is <u>not</u> a designated evacuation route.

b. Waverly Residency

1. Bartlett Area Headquarters

Traffic control devices will be implemented to convert both lanes of the bridges across the Nansemond River and Chuckatuck Creek to northbound traffic on Route 17 in Suffolk. This will maintain capacity of Route 17 in the outbound direction.

Local law enforcement will direct traffic at the intersection of Route 17 and 258/32 at Bartlett. Local law enforcement will be required to maintain a dual right turn from Route 258/32 to Route 10 north at Benn's Church.

2. Smithfield Area

From the Route 10/258 business split to Route 258/Main Street west (Smithfield bypass), all traffic will move west on Route 10 in order to facilitate full use of the roadway for evacuating traffic.

c. Norfolk Residency

Bowers Hill Area Headquarters

I-664 North will be closed at Route 125 (Exit #9). All traffic will exit. Evacuation traffic will use Route 164 West (Western Freeway) to Route 17. Local traffic will use Route 17 North.

d. Williamsburg Residency

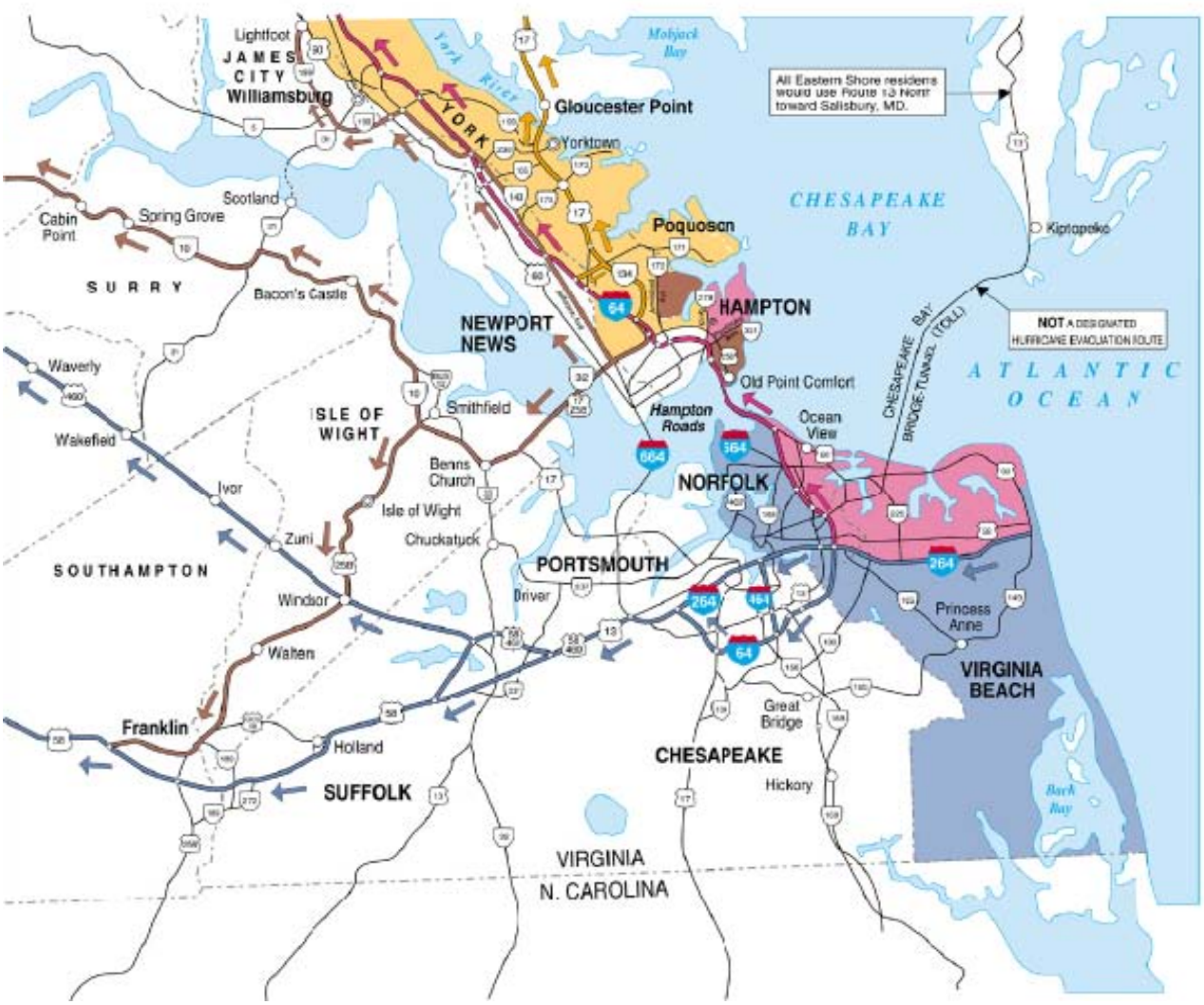
Seaford Area Headquarters

All evacuating traffic on Route 134 will divert to Route 17 north at the single lane ramp. Law enforcement presence will be required in order to facilitate the merge of this traffic (posted on Route 17 at the bottom of the ramp and on Route 134 at the merge point).

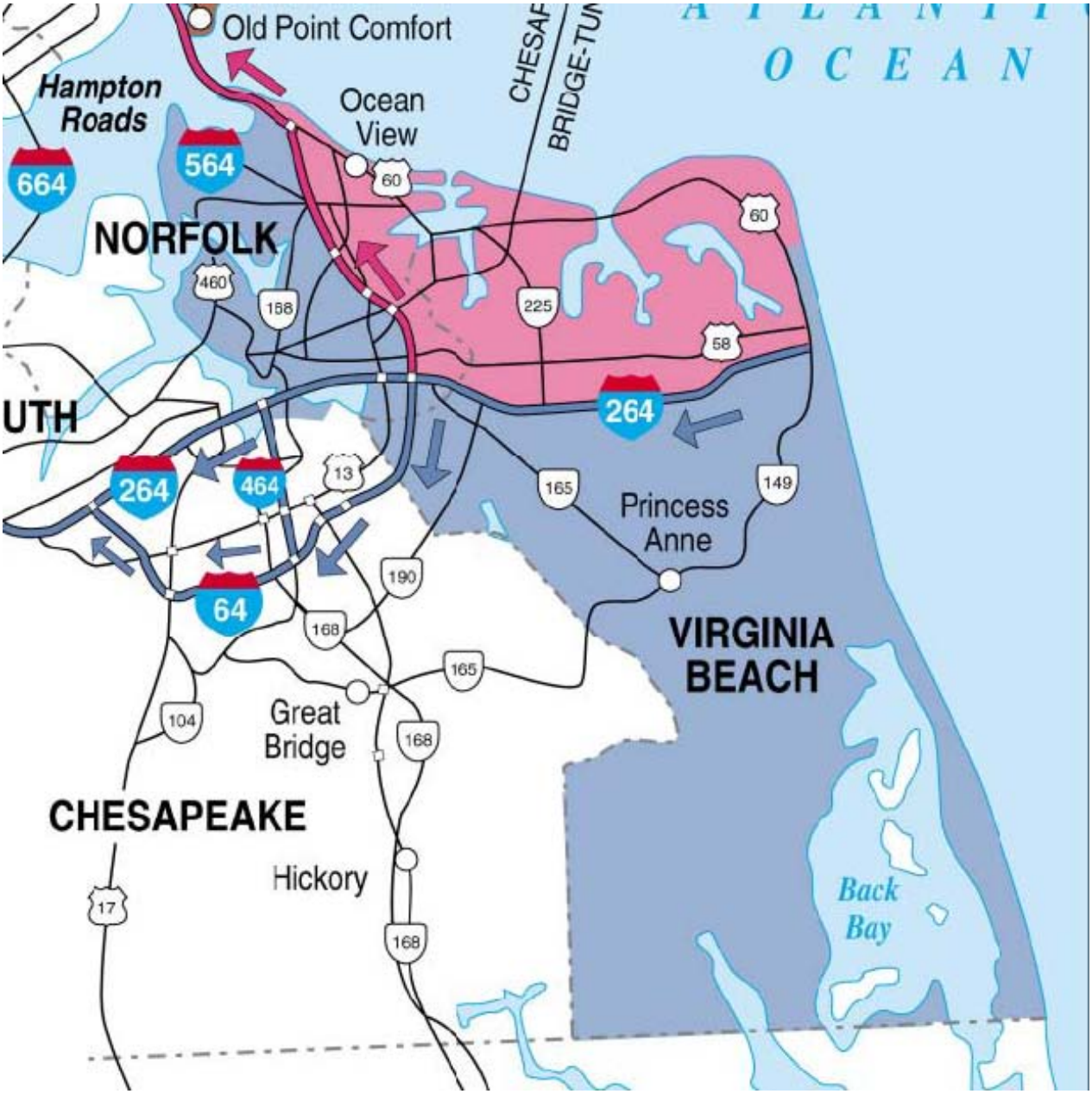
ANNEX A

PHASE ONE
(Evacuation Routes)

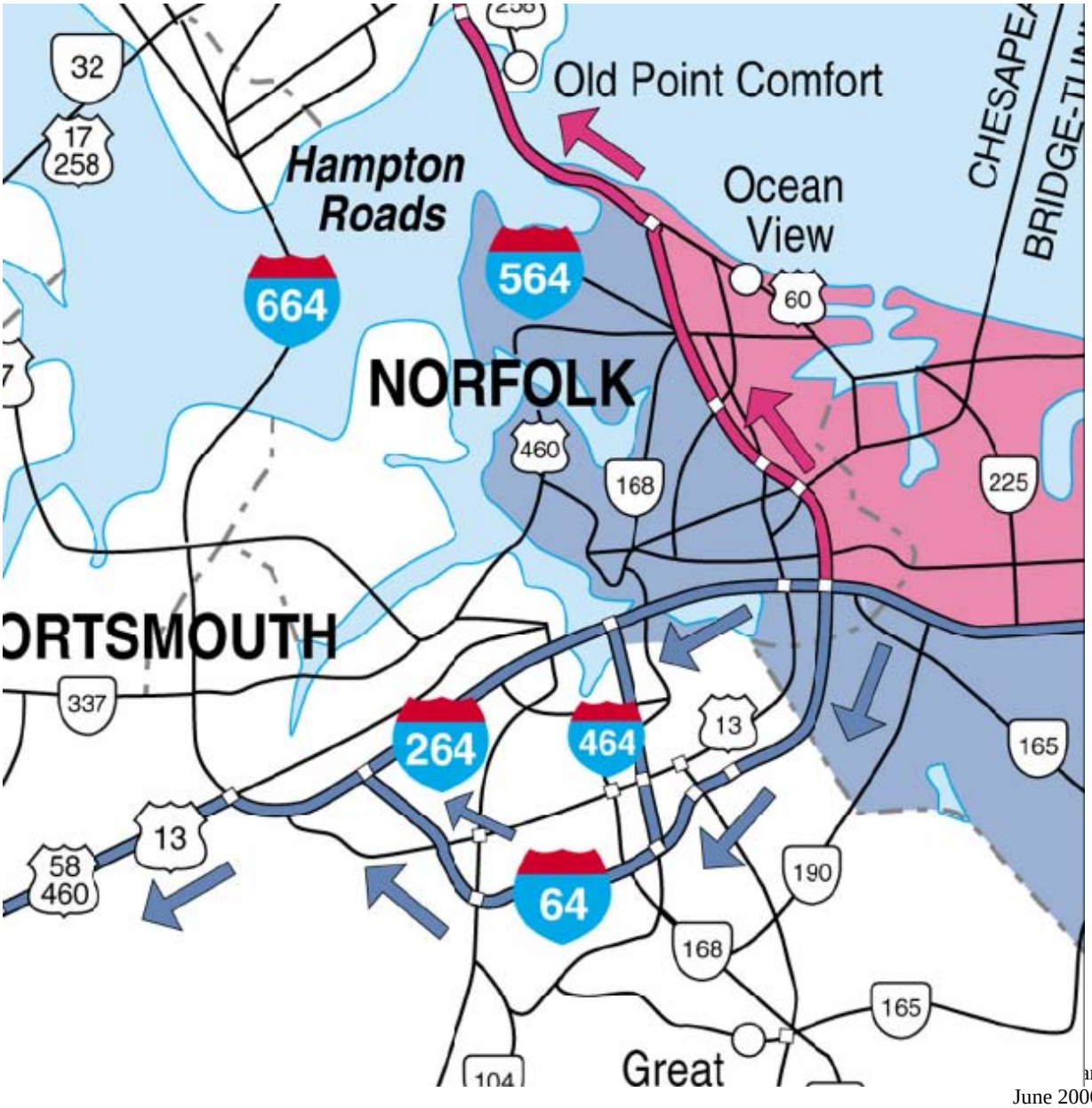
Phase One


Lightfoot
JAMES CITY
Williamsburg
YORK
Gloucester Point
Yorktown
Mobjack Bay
All Eastern Shore residents would use Route 13 North toward Salisbury, MD.
CHESAPEAKE BAY
Kiptopeke
Scotland
Cabin Point
Spring Grove
SURRY
Bacon's Castle
Poquoson
HAMPTON
NEWPORT NEWS
NOT A DESIGNATED HURRICANE EVACUATION ROUTE
CHESAPEAKE BAY BRIDGE-TUNNEL (TOLL)
ATLANTIC OCEAN
Waverly
Wakefield
ISLE OF WIGHT
Smithfield
Old Point Comfort
Hampton Roads
Ocean View
Benns Church
Isle of Wight
Ivor
Zuni
Chuckatuck
NORFOLK
SOUTHAMPTON
PORTSMOUTH
Windsor
Driver
Princess Anne
Walters
VIRGINIA BEACH
Great Bridge
Franklin
Holland
CHESAPEAKE
Hickory
SUFFOLK
Back Bay
VIRGINIA
N. CAROLINA

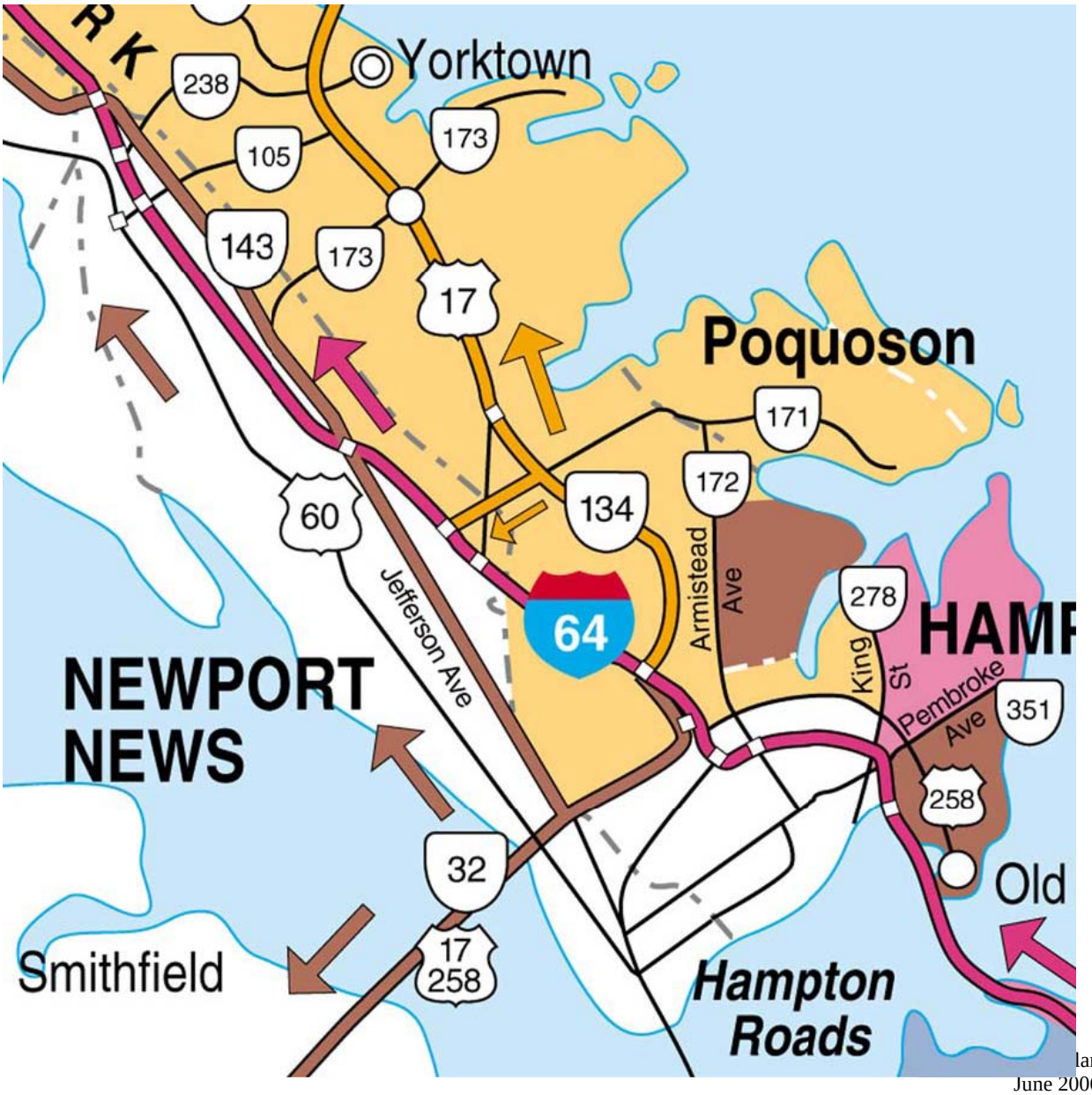
Phase One – Virginia Beach



Phase One – Norfolk



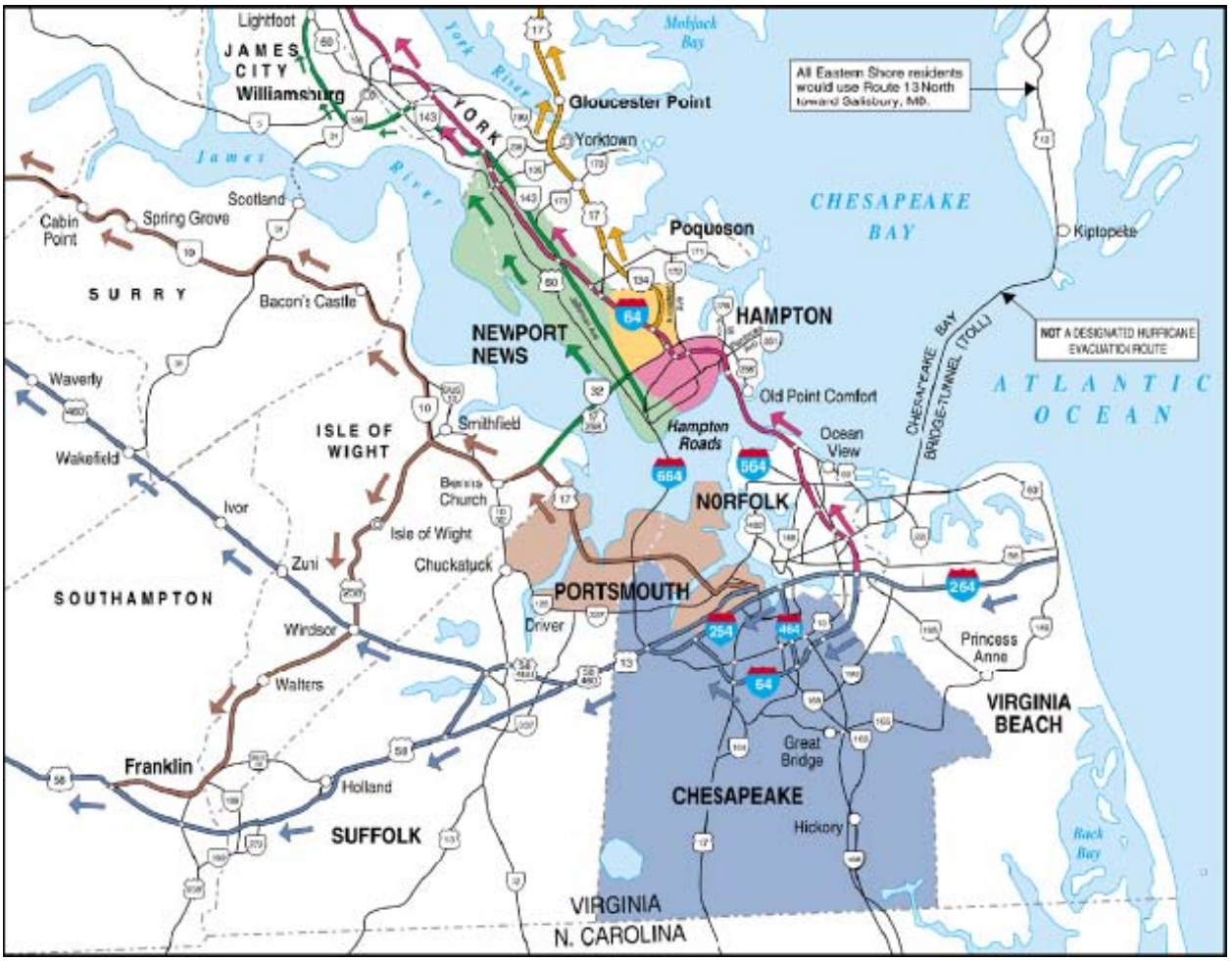
Phase One – Peninsula
(Hampton, York County & Poquoson)



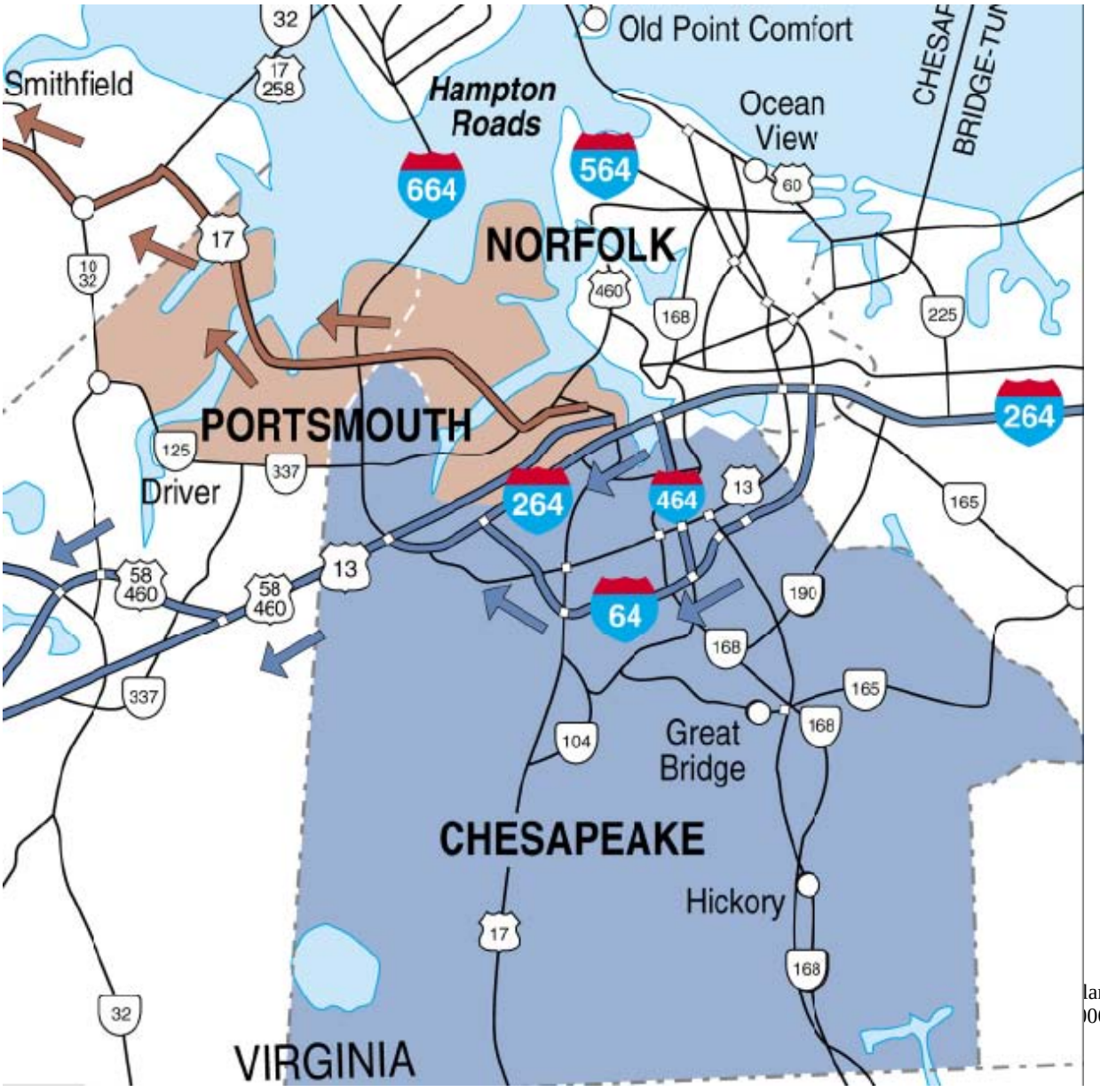
ANNEX B

PHASE TWO
(Evacuation Routes)

Phase Two


Lightfoot
JAMES CITY
Williamsburg
York River
James River
Mobjack Bay
Gloucester Point
Yorktown
All Eastern Shore residents would use Route 13 North toward Salisbury, MD.
CHESAPEAKE BAY
Kiptopeke
Scotland
Cabin Point
Spring Grove
Poquoson
SURRY
Bacon's Castle
NEWPORT NEWS
HAMPTON
NOT A DESIGNATED HURRICANE EVACUATION ROUTE
CHESAPEAKE BAY BRIDGE-TUNNEL (TOLL)
ATLANTIC OCEAN
Waverly
Wakefield
ISLE OF WIGHT
Smithfield
Hampton Roads
Old Point Comfort
Ocean View
NORFOLK
Ivor
Isle of Wight
Zuni
Chuckatuck
SOUTHAMPTON
PORTSMOUTH
Windsor
Driver
Princess Anne
Walters
VIRGINIA BEACH
Great Bridge
Franklin
Holland
CHESAPEAKE
SUFFOLK
Hickory
Back Bay
VIRGINIA
N. CAROLINA

Phase Two –
Portsmouth & Chesapeake



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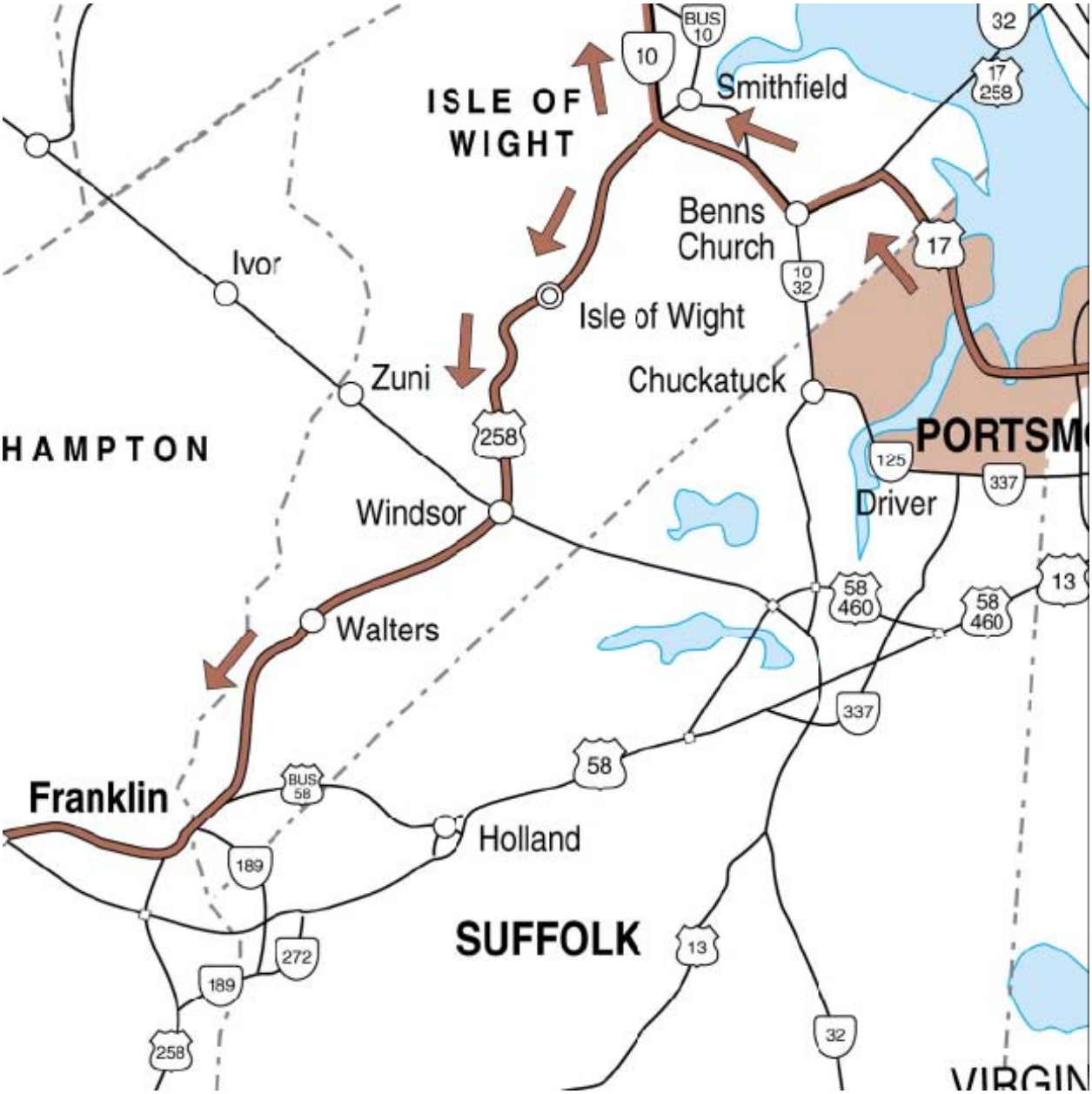
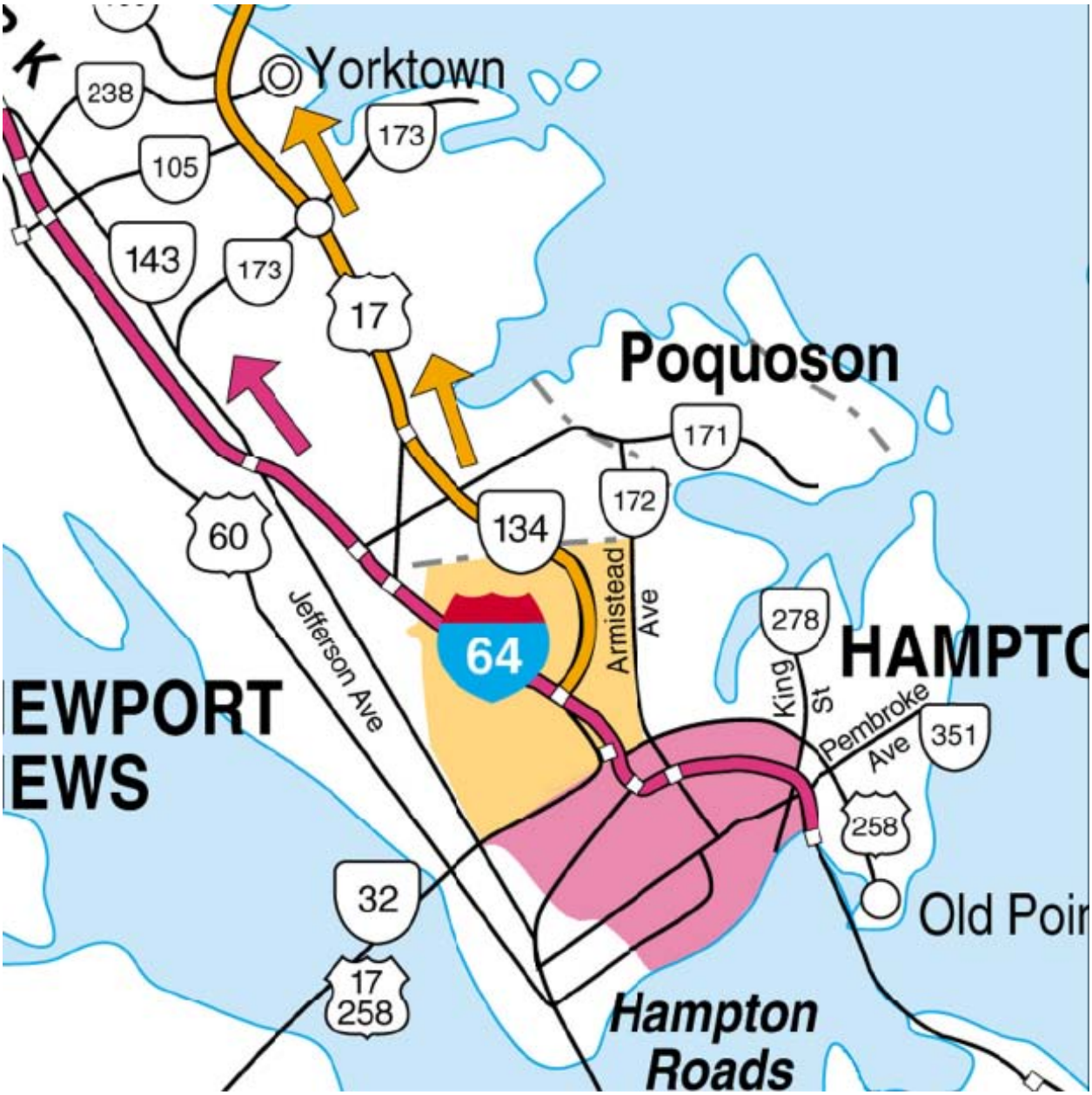
Phase Two – Suffolk



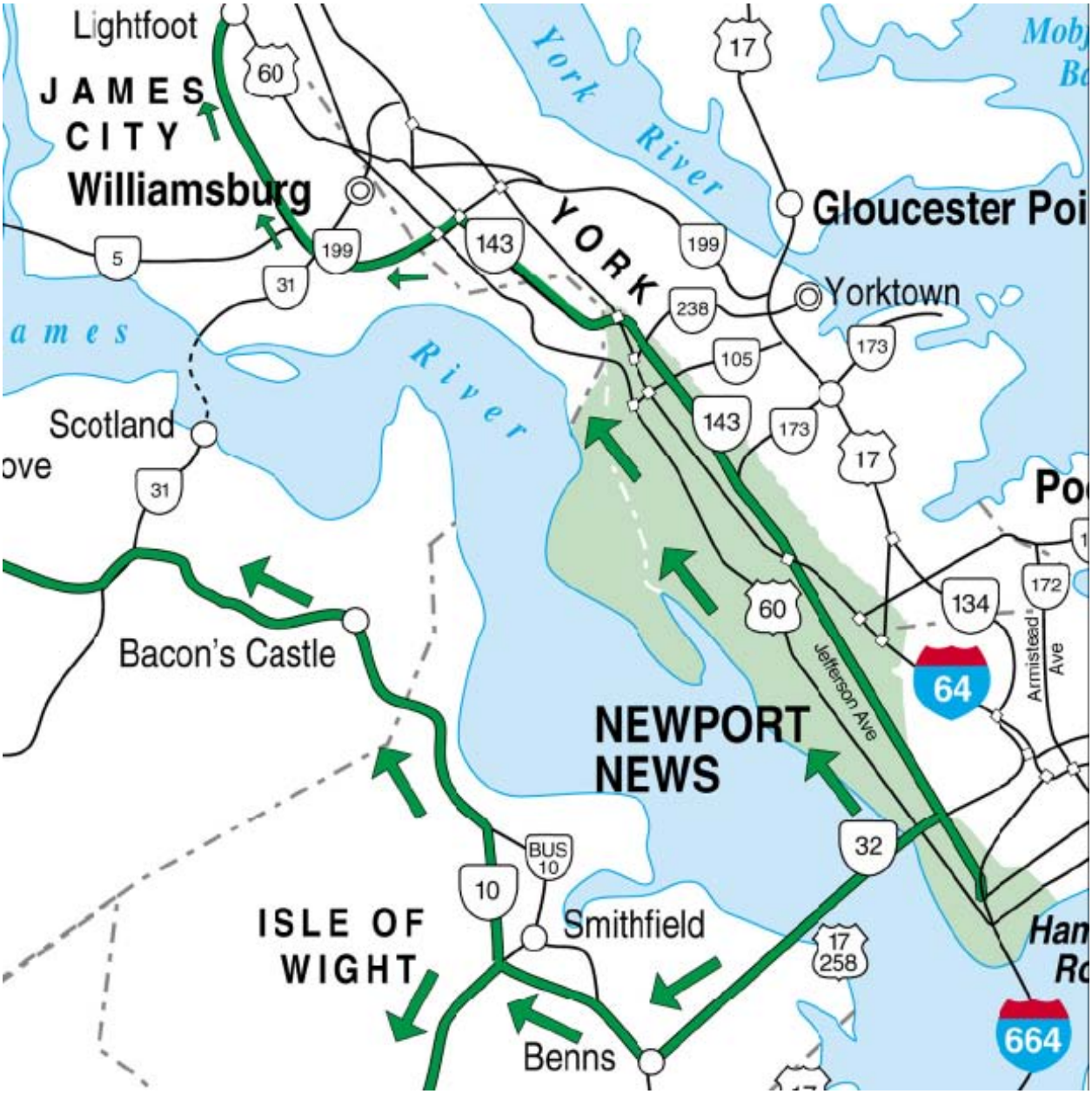
Hurricane Traffic Control Plan
June 2006

Phase Two – Hampton



Hurricane Traffic Control Plan
June 2006

Phase Two – Newport News



ANNEX C

Traffic Control Tables

Interstate Metering Rates

	Eastbound Ramps Open				Westbound Ramps Open			
Interchange	Phase 1 Evacuation	Meter Rate (vph)	Phase 2 Evacuation	Meter Rate (vph)	Phase 1 Evacuation	Meter Rate (vph)	Phase 2 Evacuation	Meter Rate (vph)
Bowers Hill	0	0	0	0	0	0	0	0
Military Hwy. South	0	0	0	0	0	0	0	0
Geo. Washington Hwy.	1	180	2	360	0	0	0	0
I-464	1	240	2	420	0	0	0	0
Battlefield Blvd.	1	240	2	480	0	0	0	0
Greenbrier Pkwy.	0	0	2	360	0	0	0	0
Indian River Road	2	240	2	180	0	0	0	0
I-264	2	900	2	900	1	240	1	240
Northampton Blvd.	1	300	0	0	1	480	1	480
Military Hwy. North	0	0	0	0	0	0	0	0
Norview Avenue	1	360	1	360	1	480	1	200
Chesapeake Blvd.	0	0	0	0	0	0	0	0
Tidewater Drive	1	360	1	180	1	300	1	360
I-564	2	480	1	360	0	0	0	0
Granby Street	0	0	0	0	1	240	1	360
Bay Avenue	1	180	0	0	0	0	0	0
4th View Street	1	180	1	180	1	420	1	360
15th View Street	1	0	1	0	0	0	0	0
Mallory Street	0	0	0	0	0	0	0	0
County Street	0	0	0	0	0	0	0	0
LaSalle Avenue	0	0	0	0	1	420	1	300
I-664	0	0	0	0	1	300	1	600
Mercury Blvd.	0	0	0	0	1	420	2	480
Hampton Roads Ctr. Pkwy.	0	0	0	0	0	0	0	420
J. Clyde Morris Blvd.	0	0	0	0	0	0	0	0
Victory Blvd.	0	0	0	0	1	120	1	120
Jefferson Avenue	0	0	0	0	0	0	0	0
Ft. Eustis Blvd.	0	0	0	0	0	0	0	0
TOTALS:	**15**	**3660**	**17**	**3780**	**10**	**3420**	**11**	**3740**

Phase One - Table 1

required manpower for 12 hour shifts

Exit	VDOT	VaARNG	VSP	Exit Total
16	0	0	0	0
297	2	0	2	4
296	2	0	2	4
291	5	0	5	10
290	4	0	3	7
289	4	0	3	7
286	8	0	8	16
284	7	0	6	13
282	3	0	3	6
281	2	0	2	4
279	4	0	4	8
278	4	0	3	7
277	6	0	6	12
276	3	0	4	7
New Gate	2	0	4	6
274	1	0	2	3
273	2	0	4	6
272	1	0	2	3
268	4	0	3	7
267	4	0	3	7
265	5	0	5	10
264	5	0	5	10
263	3	0	4	7
262	0	0	0	0
261	4	0	3	7
258	4	0	3	7
256	2	0	4	6
255	3	0	3	6
250	4	0	3	7
247 A.	2	0	2	4
247 B.	0	0	0	0
243	0	0	0	0
242	4	0	3	7
238	8	0	5	13
234	0	0	0	0
Rt. 199/143	0	0	0	0
Rt. 199/60	0	0	0	0
9	0	0	0	0
8	7	0	4	11
Total	119	0	113	232

Phase Two – Table 2

required manpower for 12 hour shifts

Exit	VDOT	VaARNG	VSP	Exit Total
16	0	0	0	0
297	2	0	2	4
296	2	0	4	6
291	2	0	2	4
290	4	0	6	10
289	3	0	4	7
286	8	0	8	16
284	7	0	6	13
282	3	0	3	6
281	2	0	2	4
279	4	0	4	8
278	4	0	3	7
277	6	0	6	12
276	3	0	4	7
New Gate	2	0	4	6
274	1	0	2	3
273	2	0	4	6
272	1	0	2	3
268	4	0	3	7
267	4	0	3	7
265	5	0	5	10
264	5	0	5	10
263	2	0	4	6
262	0	0	0	0
261	4	0	3	7
258	4	0	3	7
256	2	0	4	6
255	3	0	3	6
250	4	0	3	7
247 A.	2	0	2	4
247 B.	0	0	0	0
243	0	0	0	0
242	4	0	3	7
238	8	0	5	13
234	0	0	0	0
Rt. 199/143	6	0	4	10
Rt. 199/60	1	0	2	3
9	3	0	2	5
8	7	0	4	11
Total	124	0	124	248

Reversal Phase – Table 3

required manpower for 12 hour shifts

Exit	VDOT	VaARNG	VSP	Exit Total
273	5	5	6	16
272	2	0	3	5
268	6	6	3	15
267	6	5	3	14
265	12	10	6	28
264	7	4	3	14
263	9	6	4	19
262	3	2	2	7
261	9	6	5	20
258	12	9	7	28
256	12	8	5	25
255	12	8	6	26
250	12	8	5	25
247 A.	3	2	2	7
247 B.	6	4	3	13
243	9	6	4	19
242	12	8	5	25
238	6	6	3	15
234	3	2	6	11
231	12	8	5	25
227	9	7	4	20
220	6	8	5	19
214	6	4	3	13
211	6	4	3	13
205	6	5	3	14
200	11	10	11	32
9	3	2	2	7
8	7	4	4	15
Total	212	157	121	490

Functional Annex D:

RISK AND HOST AREA SHELTER OPERATIONS

SUMMARY

A. The Coastal Virginia Regional Hurricane Sheltering Plan is intended to provide a framework within which state agencies and localities can coordinate actions to deal with a major hurricane. It addresses situations that affect the probability that a hurricane will impact Virginia and the assumptions that underlie emergency preparedness and response decisions at the state and local level. This plan most directly impacts coastal areas vulnerable to the direct affects of a hurricane and those areas located along the designated evacuation routes that may need to operate shelters for evacuating coastal residents.

B. A major hurricane is defined as a hurricane in Category 3, 4 or 5 on the Saffir-Simpson Scale of hurricane strength. The winds and storm surge in Category 1 and 2 hurricanes are considered less destructive and may not require wide-scale evacuations from the risk areas or large-scale shelter operations.

C. The overall strategy for dealing with a major hurricane is to evacuate the population from those areas of coastal Virginia that have been identified as "at-risk" of inundation by storm surge flooding and to relocate them to places of relative safety outside the risk area.

D. The area at risk of storm surge flooding is generally defined as coastal and low-lying sections of 21 localities located east of a line running north from the North Carolina line at Suffolk to the Potomac River at Westmoreland County. The region includes the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and the Counties of Accomack, Gloucester, Isle of Wight, Lancaster, Mathews, Middlesex, Northampton, Northumberland, Richmond, Surry, Westmoreland, York and the Town of Chincoteague.

MISSION

To provide procedures for providing emergency sheltering for the evacuating coastal population who are threatened by an approaching hurricane.

ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. The organization and assignment of primary and secondary responsibilities are detailed in the Commonwealth of Virginia Emergency Operations Basic Plan. Listed below are the key participants in the evacuation and sheltering functions of the Commonwealth's response to the threat of a coastal hurricane.

1. Governor

    a. Declare a State of Emergency

    b. Order a mandatory evacuation of hurricane risk areas. The authority may be delegated to other state officials or to local officials.

    c. Direct the use of state personnel and resources to coordinate response to the emergency.

    d. Authorize the reimbursement of risk and host localities for expenses required to operate public shelters for threatened populations in accordance with written agreements.

    e. Request the assistance of the federal government as needed.

2. State Coordinator of Emergency Management, Department of Emergency Management

    a. Serve as the Governor's executive agent and lead agency for the coordination of state resources to manage emergency and disaster operations.

    b. Coordinate state operations and assist local operations.

    c. Coordinate with federal government agencies including the Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) and the National Weather Service-National Hurricane Center.

    d. Continuously notify the Governor and State Legislators of status of the emergency and disaster preparedness activities.

    e. Initiate opening of the Host Shelters as needed.

3. Department of Transportation

    a. Develop and maintain the Hurricane Evacuation Traffic Control Plan.

    b. Implement the Hurricane Evacuation Traffic Control Plan, in cooperation with the Virginia State Police, to manage the controlled evacuation of areas threatened by a hurricane.

    c. Staff the traffic control measures implemented in the plan on state-maintained roads.

d. Coordinate the closure of high-risk roadways such as bridges, tunnels, or flood-prone sections of roadway as indicated in the Transportation Emergency Operations Plan, the Chesapeake Bay Bridge-Tunnel Closure Plan, and other protocols for adjusting transportation resources to meet impending emergencies.

4. Virginia State Police

a. Assist in the implementation of the VDOT Hurricane Evacuation Traffic Control Plan.

b. Expedite the flow of traffic out of the coastal areas during an evacuation.

c. Control access to evacuation routes during the evacuation of the risk areas, including access from North Carolina (see Annex C).

d. Maintain order and security on the designated evacuation routes.

e. Monitor the flow of traffic during the evacuation and keep the State EOC informed of the status.

f. Control re-entry into the impacted area after the hurricane has passed.

5. Department of Social Services and the American Red Cross

a. Coordinate the opening of shelters in the risk areas during the days of preparation for a hurricane in accordance with local plans.

b. Coordinate the opening of shelters in host areas in advance of an evacuation directive, in accordance with local plans, and interstate plans.

c. Provide status reports on the number of shelters open, the location of open shelters, the number of shelter spaces occupied, and the number of shelter spaces available.

d. Provide status reports on the requests and provision of resources for sheltering operations.

e. Provide guidance on the establishment of post-storm temporary housing facilities for people who cannot return to their residences.

6. Department of Health

    a. Coordinate state resources in the provision of transportation or shelter facilities for people with special health or medical needs, in accordance with local plans.

    b. Coordinate state resources in providing safe and sanitary food and shelter resources in accordance with local plans.

SITUATION

A. The risk area includes the city of Virginia Beach and the Eastern Shore on the Atlantic Ocean, the Hampton Roads port area, the southern half of the Chesapeake Bay and the tidal peninsulas formed by the James, York, Rappahannock, and Potomac Rivers. The continental shelf and the shallow bay, with its tidal rivers, create a situation conducive to high storm surges.

B. Tidal surge associated with a major hurricane could cause a maximum inundation of almost 23 feet above sea level on the eastern side of the Eastern Shore and 15+ feet in the port areas of Hampton Roads, in addition to the accumulated effects of tides, waves and rainfall.

C. Approximately 1.5 million people live in the risk area (2000 census). An estimated 600,000 live in identified evacuation areas. An additional 100,000 overnight guests would be in the evacuation zones during the peak of the summer tourist season. Therefore, an estimated 700,000 people may be advised to evacuate from their dwellings.

D. The time needed for people in the inundation areas to completely clear the risk area is at least 27 hours. The City of Virginia Beach, the easternmost locality in the metropolitan Hampton Roads region, requires the longest time to evacuate.

F. There are six through-ways leading west from the Hampton Roads risk area: I-64 west, I-64 east to Route 58 and Route 460, Route 60 west, Route 143 west, U. S. Route 17 to Route 10 and U.S Route 17 North. Motorists must cross over bridges and/or through tunnels on every evacuation route (see Annex C).

G. Although many of the designated shelters in the risk localities are not in the inundation areas and will be open to people evacuating, there will also be the need for shelters outside the risk areas. In the event of a major hurricane, there may be as many as 400,000 people leaving the coastal Virginia region. It is anticipated that most evacuees will stay with friends, relatives or in motels along the evacuation routes. However, an estimated 40,000 may seek public shelters in host localities out of the region.

H. The Governor has the authority to require an evacuation.

ASSUMPTIONS

A. Hurricane monitoring and warning reports will be available from the National Weather Service/National Hurricane Center.

B. All local emergency operations centers (EOC) in the Commonwealth will be in communication with the Virginia EOC (VEOC), coordinating actions with one another during the preparedness period and during the emergency.

C. Localities will initiate those functions necessary for alerting emergency services, informing the general public, communicating with other localities and the VEOC, and implementing those measures necessary to protect life and property in accordance with the local emergency operations plans (EOP).

D. The hurricane traffic management plan, developed by the Virginia Department of Transportation (VDOT) and Virginia State Police (VSP) will be implemented. The plan identifies evacuation routes and limits access, based on the maximum capacity of each route. Evacuation routes will be monitored by the Virginia State Police and closed at appropriate points as the approaching hurricane causes high winds and rising water.

E. Local governments will be responsible for traffic control within their jurisdictions. Host localities will be responsible for traffic control from the evacuation routes to designated shelters.

F. The Governor will exercise the authority to require an evacuation or delegate that authority to local officials.

G. The Commonwealth will authorize state reimbursement of expenses incurred by local governments and host communities to provide sheltering in accordance with existing written agreements (see Tab C to Annex D).

H. The primary means of hurricane evacuation will be private vehicles. Localities may provide public transportation based upon community demographics and in accordance with local plans.

I. A portion of the at-risk population will voluntarily evacuate before an evacuation has been recommended or directed. Most people who leave their homes will seek shelter with relatives, friends or in motels and will not need host shelters.

J. Some localities in the risk area will not be able to open shelters because of the projected inundation areas. Residents of those areas will be advised to seek shelter in host areas.

K. Localities may have to direct an evacuation late in the day; the timing of an evacuation directive will be determined by the circumstances of the approaching storm.

L. All hospitals, nursing homes, and group residential facilities operated by private or public agencies based upon licensing requirements will have pre-determined evacuation and/or refuge plans.

M. Refuges of last resort will be identified by risk and host localities and will be needed for people in vehicles who cannot evacuate because of traffic or safety considerations.

SHELTERING IN COASTAL LOCALITIES

A. Shelter Plan

All localities in the coastal areas should have a clear, comprehensive shelter plan as part of their EOP. The plan should state in unambiguous terms who is responsible for each shelter facility, and who is responsible for the operation of the shelter. Lines of succession and job descriptions should be clearly defined. Shelter kits should be prepared and pre-positioned for accessibility to the Shelter Managers. Persons who will staff the shelters should be designated and assigned, and trained on a regular basis.

B. Shelter Facilities

Buildings to be used as shelters should be surveyed for space, accessibility, structural integrity, and security. Local governments should consider not only whether the buildings are located outside of storm surge inundation zones but also whether those areas of the building where people will be congregated (i.e. gymnasium) can withstand hurricane force winds.

C. Shelter Demand

Several factors may determine how much shelter space is needed. The proportion of evacuating residents that go to public shelters is higher for low-income residents, lower for residents at high risk of flooding, and very low for vacationers. To some extent, emergency managers can influence the proportion of evacuees going to public shelters. For instance, the timing of evacuation advisories is crucial. Delays that result in late or "urgent" evacuations will roughly double normal shelter demand.

D. Shelter Capacity

In determining shelter capacity, local planners should consider both short-term (12-18 hours) and long-term sheltering. Many residents will need shelter only during those hours when the storm is actually in the area. Others, whose homes suffered damage or who need special care, may need to stay in the public shelter until temporary housing or permanent relocation housing is obtained. Planners may be able to expand the capacity of the shelters

by allowing for 10 sq. ft. for short-term shelter, and 40 sq. ft. for longer-term sheltering. Flexibility could be considered in both evacuee capacity and staffing.

E. Refuges of Last Resort

Localities that have dense populations or extremely vulnerable areas should also designate "refuges of last resort". These are facilities in the vulnerable area or near major evacuation routes that would be likely to withstand the effects of the storm and may be used as refuges if people in the path of the storm were unable or unwilling to evacuate until there was no longer sufficient time to clear the area. In Hampton Roads, an area heavily dependent on bridges and tunnels, it is conceivable that evacuation routes could become clogged to the extent that many people were stranded on the highways or in vulnerable areas of the cities. The “refuges of last resort” would only be activated after all other possibilities have been exhausted and would be operated no more than 12-24 hours. When localities operate Refuges of Last Resort they are not intended to be classified as a Shelter and therefore may not be operated according to Red Cross Guidelines.

F. Shelter Management

1. The American Red Cross is the acknowledged expert in shelter management in the country. Through decades of experience they have developed comprehensive and efficient administrative procedures and have successfully operated shelters under every conceivable circumstance. Local planners should consider using the Red Cross administrative operating procedures for managing shelter operations.

2. There are advantages to the Red Cross system. It is a complete system. All forms, job descriptions, supply lists, purchasing procedures, space requirements, and staffing requirements are already in place. So long as the shelter operates under the Red Cross administrative system, the Red Cross may pay operating cost in accordance with predetermined agreements.

3. The resources of the Red Cross, including supplies, equipment, and personnel, can be transported into a disaster area in a matter of hours. Their response is especially prompt for an anticipated event such as a hurricane because they can make extensive preparations and "stage" resources as the storm moves toward coastal areas. They do not, however, send resources into an area to staff shelters before a disaster. Therefore, local personnel must operate shelters that open during the “readiness” or “watch” phases of emergency operations. These workers can be local Red Cross personnel (paid and volunteer) or other appropriate personnel. Any shelter that is opened and presented as operating as a Red Cross shelter must be managed by an American Red Cross Trained Shelter Manager.

4. The hurricane scenario is different from other kinds of disasters because it can affect so many localities simultaneously and such a large population. To prepare for a hurricane,

the resources of the Red Cross chapter and local government are needed and training should be conducted jointly.

5. In most of the large cities of Hampton Roads, local governments have developed cooperative shelter programs with local Red Cross Chapters. The shelters operate in government facilities under Red Cross administrative procedures. The staff is local government personnel trained by the Red Cross. The government employees are, thereby, serving a dual role as Red Cross volunteers. These cooperative agreements take advantage of the assets of both organizations. The Red Cross has a "tried and true" management system, and local government has people--and also has the ultimate responsibility for the safety and welfare of its residents. The shelter programs are under the authority of the local social services departments whose personnel usually manage the facilities, although in some localities, employees from all government departments are involved. This system gives shelter managers a large pool of employees to draw from, and distributes the responsibility among all sections of the government.

6. Local planners should provide to train a large enough staff for their shelters so that Social Services personnel can carry out other vital disaster-related tasks such as distribution of food stamps, financial aid, etc.

7. Those localities in the coastal area that operate shelters under their own administrative procedures may also, at some point, need to transfer sheltering responsibilities to the Red Cross in order to return to the other responsibilities of government. ARC usually assumes full operation within 72 hours of landfall.

G Shelter Training

Red Cross Training for shelter managers and shelter workers can be coordinated through the local Red Cross (ARC) Chapters.

INLAND SHELTERING

A. In the face of a severe hurricane (Category 3 or greater), as many as 400,000 people may leave the coastal area. They will leave with the intention of staying in hotels or with friends in areas west and north of coastal Virginia. An estimated 95 percent of vacationers will leave, although more than half of them live within 200 miles and will probably drive home.

B. Primary evacuation routes are Interstate 64, Route 58, Route 460, Route 258, Route 258/32, Route 17, Route 60, Route 143, Route 337 and Interstate 664. These routes all directly or indirectly link with Interstate 95 North & South. Residents of the Eastern Shore will drive north on Route 13 into Maryland, as the Chesapeake Bay Bridge-Tunnel is not designated an evacuation route. Very likely, Virginia evacuees will be following several thousand

vehicles from North Carolina's Outer Banks, driving through Tidewater Virginia enroute north (via Route 168 or Highway 17).

C. It is very difficult to predict the shelter demands for host areas. Surveys taken in Virginia and other states are not reliable and accurate indicators of actual use of public shelters in host areas. There are too many variables that depend on circumstances at the time of the evacuation. Behavioral surveys taken following Hurricane Floyd in 1999 showed that on average a maximum of 6% of evacuees go to public shelters. The assumption can be made, however, that a large majority of evacuees will find shelter in the homes of friends or in hotels/motels.

D. Regardless of their intentions, most evacuees tend to seek shelter when the traffic becomes clogged or when nightfall is imminent. Although there are clusters of hotels and motels along the evacuation routes, there are not enough rooms available to house all the evacuees. Particularly since hotels in inland areas, not threatened by the approaching storm, will be at normal vacation occupancy (approximately 75 percent). Therefore, local governments that border the evacuation routes should be prepared to shelter evacuees.

E. Evacuees want to move out of the storm's path, but they generally do not want to travel any further than necessary. If given the opportunity, evacuees tend to choose the shelters (private or public) closest to their homes. They prefer to stop at the first available shelter, rather than travel to a distant shelter.

F. Preliminary estimates of host capacity indicate that it would be necessary to use all available hotels and motels as well as provide public shelters for overflow. The unknown factor is “private shelter”--the homes of friends and relatives.

G. Inland communities along the identified evacuation routes are likely hosts and should assume responsibility for developing shelter plans for coastal residents. Public shelter will be provided to coastal evacuees as needed, with public shelters opened when it becomes apparent that commercial facilities are not sufficient. Host jurisdictions should:

1. Be aware of information distributed and broadcast to coastal evacuees.

2. Be aware of plans to divert or reroute traffic.

3. Locate shelters or reception centers near the evacuation highways, keeping shelters accessible from those highways.

4. Maintain communications with the VEOC, coastal jurisdictions and the VDOT Smart Traffic Centers to be aware of timing and size of evacuee influx.

5. Maintain an information network, which will indicate when local commercial facilities are nearing capacity to permit activation of public shelters. Coastal jurisdictions

should, in coordination with host jurisdictions, develop public information materials for evacuating coastal residents. Coastal and inland jurisdictions should keep the Virginia EOC apprised of the status of the evacuation and the amount of available shelter space remaining respectively. This will permit the EOC to advise coastal jurisdictions as to where available space exists for evacuee routing, and to estimate the influx of evacuees for inland jurisdictions.

CONCEPT OF OPERATIONS

A. Evacuation Sequence

1. As the storm approaches the Commonwealth, the VEOC and local EOCs will monitor advisories issued by the National Weather Service/National Hurricane Center and review plans.

2. Localities will issue emergency declarations according to weather advisories as indicated in their local emergency operations plans.

3. Localities will issue emergency preparedness information through the local news media through established communication networks.

4. As circumstances warrant, the Governor will issue an Executive Order directing an evacuation or authorizing localities to direct an evacuation.

5. The VEOC will alert all inland and host localities along the designated evacuation routes of the status of the hurricane and the timing of evacuation decisions. The host localities will implement the necessary preparedness activities.

6. Voluntary evacuation will begin to take place from the risk areas.

7. Each threatened locality will coordinate with the VEOC and neighboring jurisdictions in determining when and if to direct an evacuation.

8. Each threatened locality will determine when and if to open shelters and will notify the VEOC and the neighboring localities of its decision.

9. Host localities will be notified, as necessary, of the evacuation decisions and will implement necessary emergency services functions.

10. The VEOC will notify the North Carolina State EOC of the decision to initiate a Regional Southeastern Virginia evacuation. The VEOC with request North Carolina to implement the Barco diversion plan for remaining evacuees from the Outer Banks.

11. VDOT/VSP will implement the Hampton Roads Hurricane Evacuation Traffic Control Plan.

12. Each locality will determine evacuation start times, using manual or automated decision aids or processes, in consultation with the VEOC and with other localities, and will issue evacuation directives.

13. The VEOC will monitor and coordinate the allocation of resources in order to provide appropriate emergency support functions.

B. Shelters

1. Risk Area Shelters

a. Risk localities will open shelters as part of their preparation for the possible arrival of hurricane-force winds and storm surge flooding. Shelters will operate in accordance with the local emergency operations plans.

b. It is the recommended policy of the Hampton Roads Emergency Management Committee that shelter lists not be publicized in advance of an event since openings will depend upon the event. Lists indicating which shelters might be used for a hurricane may be made available by individual cities and counties at the beginning of the hurricane season.

c. Risk localities will advise residents who live in storm surge inundation areas and those who live in mobile homes to evacuate from their homes and seek shelter with friends or relatives, in motels and hotels, or in public shelters

d. Risk localities will notify the VEOC when shelters have been opened and report the status of shelter spaces and number of persons accommodated at least every four hours. Risk localities that cannot open shelters will notify the VEOC.

2. Host Area Shelters

a. The VEOC will keep the host localities informed of the shelter situation in the risk areas.

b. When the VEOC has been notified that the Governor or risk localities are going to order an evacuation, the host localities will be alerted and advised to prepare to open shelters as may be needed.

c. Local resources in host localities will direct traffic from the evacuation routes to the host shelters.

d. Host localities will operate shelters in accordance with American Red Cross guidelines and their local emergency operations plans.

e. Risk and host localities will continue to report to the VEOC the status of shelter spaces and evacuees accommodated every four hours.

f. Host localities will continue to accept evacuees as long as they continue to arrive or until capacity is reached.

3. Refuges of Last Resort

a. When the evacuation is terminated by state and local officials, refuges of last resort may be opened.

b. Local media will alert the public that the evacuation has been terminated and that refuges of last resort are open.

c. Local law enforcement officials will direct motorists to refuges of last resort and clear evacuation routes of vehicles.

4. Medium Term (3 to 15 days) “Super Shelters”

a. The State will identify State or locally owned installations and/or facilities, located in close proximity to the impacted coastal area, that could be utilized as large capacity evacuation shelters.

b. Large capacity shelters will operate in accordance with American Red Cross guidelines and standards.

c. Evacuees that sought host sheltering may be re-located to a high capacity shelter closer to their home, if available, if they are unable to immediately return to their home due to damage.

ACTION CHECKLIST – SHELTER OPERATIONS

The following operations periods will be used in state and local hurricane plans. The need for coordination precludes the use of different time periods or terminology.

Condition 5: Routine Operations

1. Develop SOPs.
2. Select facilities for public shelter utilization in accordance with ARC Guidelines.
3. Shelter training conducted by ARC.
4. Conduct periodic shelter exercises.
5. Host Localities to execute Memorandum of Agreement with Department of Emergency Management.
6. Identify potential "refuges of last resort" along evacuation routes

Condition 4: Forecasted Arrival of Tropical Storm Force Winds within 120 Hours (D-5 to D-3 Days)

1. Review NWS storm forecast advisories and HURREVAC projections to determine potential shelter needs.
2. Advise ARC and Social Services of potential shelter operation requirements.
3. Verify readiness of shelters for use based upon storm category.
4. Prepare staffing schedules for potential shelter operations.

Condition 3: Forecasted Arrival of Tropical Storm Force Winds Within 72 Hours (D-3 Days)

1. Review NWS storm forecast advisories and HURREVAC projections to determine potential shelter needs.
2. Advise ARC and Social Services of shelter operation requirements.
3. Verify readiness of shelters for use based upon storm category.
4. Review staffing schedules for shelter operations.

5. Review/verify communication requirements/equipment in identified shelters.

Condition 2: Forecasted Arrival of Tropical Storm Force Winds Within 48 Hours (D-2 Days)

1. Review NWS storm forecast advisories and HURREVAC projections to determine shelter needs.

2. Begin confirming shelter plans/locations in risk/host jurisdictions.

3. Prepare list of shelters to be opened, listing individual capacities, in coordination with local ARC Chapters.

4. Secure traffic flow status from EOC for designated areas.

5. Coordinate opening of host shelters, as needed.

Condition 1: Forecasted Arrival of Tropical Storm Force Winds Within 24 Hours (D-1 Day)

1. Continue to monitor event and progress of evacuation.

2. Assess need and readiness of Refuges of Last Resort.

Landfall: Arrival of Tropical Storm Force Winds - Departure of Tropical Storm Force Winds

1. Continue to monitor event and progress of evacuation.

2. Monitor shelter operations and request of resources for shelter operations.

3. Local EOCs to report status of shelters and Refuges of Last Resort to State EOC.

Emergency Relief Phase: Life-Saving Operations and the Restoration of Essential Services

1. Move all evacuees from refuge of last resort to public shelters

2. Monitor ongoing shelter and feeding operations.

3. Monitor progress of reentry and shelter populations.

4. Determine long-term shelter demand and coordinate with ARC on such needs.

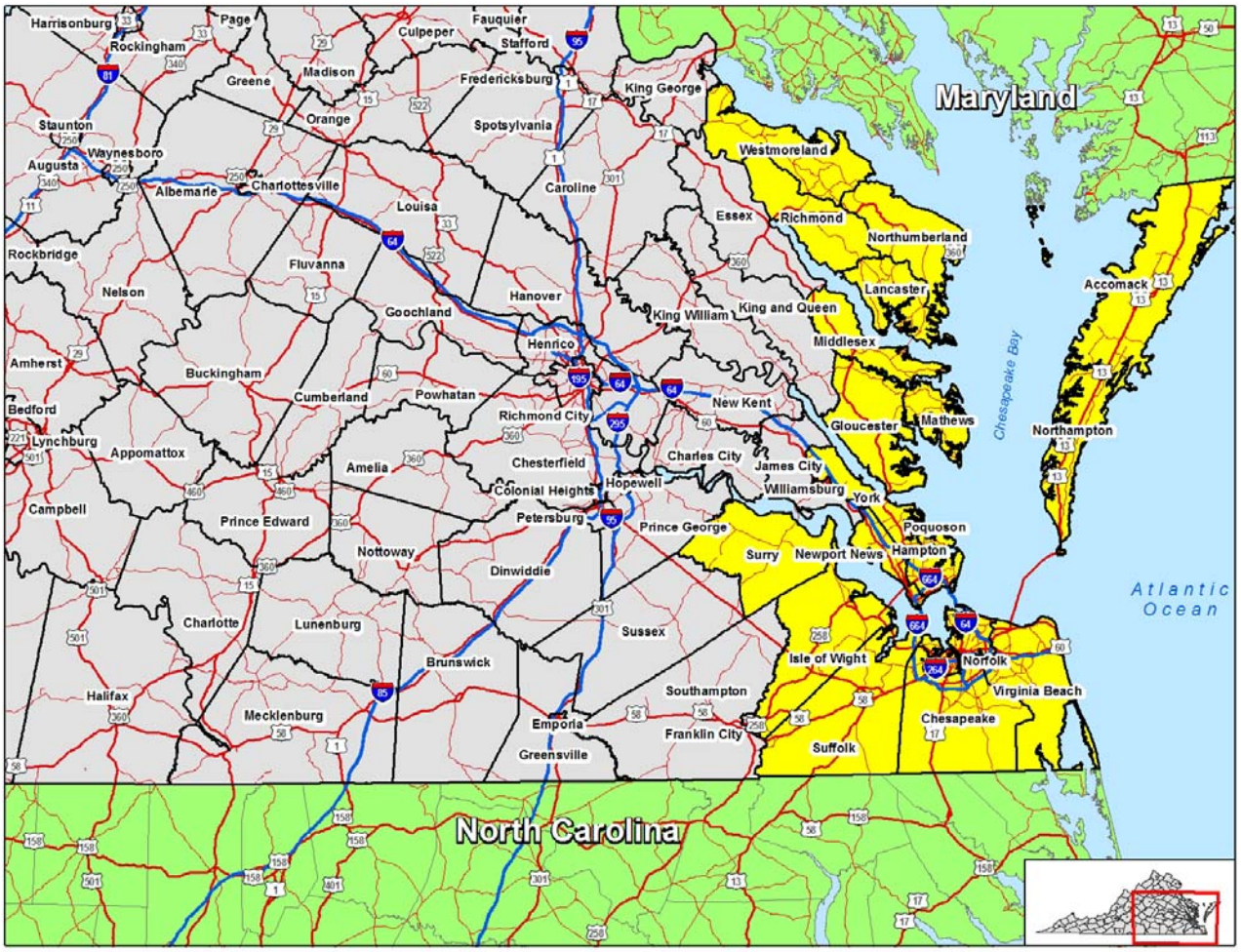
5. Identify locations and types of recovery centers needed due to storm impacts.

Note: Although coastal localities and the State EOC will be using these hurricane-specific operations periods, others, to include inland host localities, will not. They do not have separate hurricane plans and will be using the standard operations periods. (Reference the State EOP.) However, the two checklists are not incompatible. If reference is made to the "hours before the arrival of tropical storm force winds," local officials in inland localities can make it work within the context of their own checklists.

Attachment
1- Guidance to Inland Localities

Annex D, Attachment 1, Tab A

Hurricane Evacuation Routes Extended Into Host Areas



Annex D, Attachment 1, Tab B
Host Localities

(List of Localities Near Highway Hubs That Agree to Operate Host Shelters)
(*To be developed as agreements are executed*)

Annex D, Attachment 1, Tab C

Regional Host Sheltering Agreement

THIS AGREEMENT IS MADE AND ENTERED INTO BETWEEN THE COMMONWEALTH OF VIRGINIA AND EACH CITY, COUNTY, OR INDEPENDENT INSTALLATION THAT EXECUTES AND ADOPTS THE TERMS AND CONDITIONS HEREIN:

WHEREAS, the Commonwealth of Virginia Emergency Services and Disaster Law of 2000, as amended, provides the Virginia Department of Emergency Management (VDEM) with certain authorities to carry out the purposes of that law, including, but not limited to, the authority to (1) coordinate and administer preparedness plans and programs with local government, (2) determine requirements of political subdivisions for necessities needed in the event of a declared emergency which are not otherwise readily available, (3) coordinate with public entities in implementing programs for disaster prevention, mitigation, preparation, response, and recovery, (4) provide assistance during a period of declared emergency to political subdivisions to ensure orderly and timely recovery from disaster effects, and (5) enter into agreements necessary or incidental to performance of any of its duties (see Virginia Code Ann. Section 44-146.18); and

WHEREAS, this agreement, once consummated, will authorize the request and provision of shelter operations in accordance with established procedures in the threat of a hurricane impacting the Southeastern areas of Virginia, and

WHEREAS, to provide the most effective shelter operations possible, each participating entity intends to foster coordination with the VDEM by the exchange of information, and development of plans and procedures to implement this Agreement;

NOW THEREFORE, the parties hereto agree as follows:

SECTION 1: DEFINITIONS

A. The Agreement - The Host Sheltering Agreement whereby cities, counties, towns and authorized independent installations within the Commonwealth of Virginia become a party to this Agreement by executing a copy of this Agreement and providing a copy with original signatures and authorizing resolution to the Virginia Department of Emergency Management.

B. Authorized Representative - An employee of the Host Locality or Host Entity authorized in writing by that government to offer assistance under the terms of this agreement. The list of Authorized Representatives shall be included in each Host Locality's Emergency Operations Plan and provided to the VDEM. The list should be updated as needed, at least annually.

C. COVEOP - Commonwealth of Virginia Emergency Operations Plan - A plan developed and maintained by the Department of Emergency Management that identifies procedures for state level management of emergencies.

D. Designated Shelter - A facility designated by the host locality that may be pre-approved by the Red Cross that is used by that locality to provide basic services to the general population including registration (identification), food, lodging, first aid, and security.

E. Evacuation Directive - Any communication from the Governor or at risk localities recommending or mandating persons in areas at risk of flooding from a hurricane storm surge to leave their places of residence and travel to safer areas.

F. Evacuation Routes – state- or federally-maintained roads designated by the Virginia Department of Transportation for the use of motorists evacuating from Southeastern Virginia when threatened by a hurricane.

G. Host Locality - Cities, counties, towns, towns and authorized independent installations that are participating in the Agreement to provide shelter operations for people evacuating from risk localities and have provided a complete executed copy of the Agreement to the Department of Emergency Management. Host localities are desired to be located adjacent to designated evacuation routes. Host localities may operate shelters through an agreement with the local chapter of the American Red Cross.

H. Independent Installation - An entity such as a military base or private facility which can provide aid on its own authority and which may become, therefore, a participant of this agreement, either through VDEM or through a local government.

I. Major Hurricane - A hurricane classified by the National Weather Service as a Category 3 or higher according to the Saffir-Simpson Scale of storm intensity.

J. Refuge of Last Resort - A facility identified by the host locality that may be used as a last resort to defend against the effects of the storm. This facility may not be able to provide basic shelter services such as food, first aid or security, and would be used only during the period in which winds of tropical storm force or higher are experienced.

K. Risk Locality – cities, counties and towns in eastern Virginia that are at risk of the effects of hurricane storm surge as indicated in COVEOP. People evacuating from risk localities are directed to travel west on designated evacuation routes.

L. Shelter Operations - any activity involved in opening, operating and closing shelters, moving or directing people to and from shelter facilities, and providing basic services in shelters. May also include the limited operations of "refuges of last resort".

M. VDEM - Virginia Department of Emergency Management - the state agency responsible for management and administration of disaster relief for Virginia.

N. VEOC - Virginia Emergency Operations Center- a facility maintained at all times by VDEM to coordinate emergency response activities of state and federal agencies.

SECTION 2: HOST LOCALITY AND HOST ENTITY RESPONSIBILITIES

Each host locality or host entity will develop plans and procedures to operate shelters for people evacuating from risk localities. The host locality is responsible for:

A. Assigning an individual the responsibility for authorizing use of resources for hosting.

B. Informing VDEM of the name and direct contact information of the authorized individual.

C. Identifying appropriate facilities for operating shelters.

D. Providing appropriate personnel and resources to operate shelters in accordance with the COVEOP and in coordination with the VEOC.

E. Maintaining communications with the VEOC to determine the status of the hurricane and the evacuation of motorists from risk localities.

F. Notifying the VEOC of its availability to provide shelter operations.

G. As applicable, directing motorists from the designated evacuation routes to the designated host shelters.

H. Providing the following shelter services in a secure facility - registration, food, space for eating and sleeping, parking space, first aid (if needed) and information on storm status.

I. Identify existing facilities within their locality for potential use as a “super shelter”:

1. Survey facility for shelter practical use

2. Identify and train staff to ARC Standards

SECTION 3: ROLE OF THE VIRGINIA DEPARTMENT OF EMERGENCY MANAGEMENT

A. Under this Agreement, the responsibilities of the Virginia Department of Emergency Management during normal operations are:

1. Enter into the Agreement on behalf of the Commonwealth of Virginia,

2. Integrate the list of host localities executing this agreement into the COVEOP and into the procedures of the VEOC,

3. Assist in the execution of this Agreement.

B. Under this Agreement, the responsibilities of the Virginia Department of Emergency Management during a State of Emergency declared by the Governor are:

1. Establish and maintain communications with any host locality that has executed this Agreement.

2. Request Authorized Representative of each host locality to determine availability of facilities, personnel, equipment and resources and notify VEOC of determination.

3. Coordinate the requests for assistance from host localities.

4. Coordinate provision of resources to host localities from state and federal agencies in accordance with COVEOP.

5. Coordinate requests for reimbursement for eligible costs.

SECTION 4: REIMBURSEABLE EXPENSES

A. A host locality may request reimbursement for 100% of eligible expenses if it has executed an Agreement and has supplied a complete executed copy of the Agreement to the Virginia Department of Emergency Management.

B. Items eligible for reimbursement are any of the following expenses that were incurred after the Governor declared a State of Emergency:

1. Costs of overtime salary and benefits of personnel involved in shelter operations,

2. Costs directly related to the loss of the ability of the host locality to provide regular services (i.e. allocation of resources to sheltering rather than normal services),

3. Costs to restore shelter facilities to pre-shelter conditions,

4. Costs of directing or assisting in the direction of evacuating motorists to shelters,

5. Costs related to providing water, wastewater disposal, heat, cooling, electric power, and telephone service to shelters and to persons in support of shelter operations,

6. Any cost related to supplies utilized for shelter operations, to include food, ice, paper products, bedding and first aid, and

7. Costs of providing services for the shelter operations by contract.

SECTION 5: INSURANCE

Each participating host locality shall bear the risk of its own actions, as it does with its day-to-day operations, and determine for itself what kinds of insurance, and in what amounts, it should carry. If a host locality is insured, its file shall contain a letter from its insurance carrier authorizing it to provide assistance under this Agreement, and indicating that there will be no lapse in its insurance coverage either on employees, vehicles, or liability. If a host locality is self-insured, its file shall contain a copy of a resolution authorizing its self-insurance program. A copy of the insurance carrier's letter or the resolution of self-insurance shall be attached to the executed copy of this Agreement, which is filed with the Virginia Department of Emergency Management. Each host locality shall be solely responsible for determining that its insurance is current and adequate prior to providing assistance in host sheltering.

SECTION 6. LIABILITY

To the extent permitted by law and without waiving sovereign immunity, each host locality shall be responsible for any and all claims, demands, suits, actions, damages, and causes of action related to or arising out of or in any way connected with its own actions, and the actions of its personnel, in providing assistance rendered or performed pursuant to the terms and conditions of this agreement. This agreement, pertaining to the sheltering of persons evacuated from stricken areas, provides an emergency services function within the meaning of section 44-146.16, Code of Virginia, and participation in this emergency services activity is intended by the parties of be covered by the immunity provisions of Section 44-146.23 of the Code of Virginia.

SECTION 7: ABILITY TO PROVIDE HOST SHELTER OPERATIONS

When contacted by the VEOC, in accordance with the COVEOP, the Authorized Representatives of any host locality agree to assess their government's situation to determine available personnel, facilities, equipment and other resources. Any locality entering into this Agreement will render assistance to the fullest extent made possible by the availability and condition of facilities, personnel, equipment and resources. When the Authorized Representative determines that the locality has available facilities, personnel, equipment and resources to provide shelter operations,

they shall so notify the VEOC and provide the information below: (1) name of building and exact location of each shelter, (2) capacity of people that can be sheltered in each facility, (3) time the shelter will be open to accept evacuees. (4) name and telephone number of contact person at host locality, (5) name and telephone number of the manager of each shelter, and (6) duration of availability of shelter facility and staff.

SECTION 8: SUMMARY REPORT

Following the period of a State of Emergency during which this Agreement was activated, the host locality will prepare a Summary Report on the form attached and forward to the VEOC.

SECTION 9: TERM

This Agreement shall be in effect for one (1) year from the date hereof and shall automatically be renewed in successive one (1) year terms unless terminated in writing by the host locality. Notice of such termination shall be made in writing and shall be sent to the Coordinator of the Virginia Department of Emergency Management.

SECTION 10: EFFECTIVE DATE OF THIS AGREEMENT

This agreement shall be in full force and effect upon approval by the host locality and the Virginia Department of Emergency Management.

IN WITNESS WHEREOF, the following parties have duly executed this Agreement as set forth below:

HOST LOCALITY

CITY/COUNTY: _____

BY: _____
(Name of Official) (Title)

DATE: _____

APPROVED AS TO FORM:

BY: _____
(Name) (City or County Attorney)

DATE: _____

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF EMERGENCY MANAGEMENT

BY: _____
(Name of Official) (Title)

DATE: _____

AUTHORIZED REPRESENTATIVES

CITY/COUNTY:: _____ DATE: _____

MAILING ADDRESS:: _____

CITY, STATE, ZIP: _____

AUTHORIZED REPRESENTATIVES TO REQUEST PROVISION OF HOST SHELTERING

Primary Representative

Name: _____

Title: _____

Address: _____

Day Phone: _____ Night Phone: _____ Fax: _____

Alternate Representative (1)

Name: _____

Title: _____

Address: _____

Day Phone: _____ Night Phone: _____ Fax: _____

Alternate Representative (2)

Name: _____

Title: _____

Address: _____

Day Phone: _____ Night Phone: _____ Fax: _____

HOST SHELTERING SUMMARY REPORT

EVENT: HURRICANE: _____

HOSTS JURISDICTION: _____

SHELTER NAME & ADDRESS: _____

DATE/TIME: SHELTER OPEN / /20__ _____ HRS.

SHELTER CLOSED / /20__ _____HRS.

NUMBER OF EVACUEES SHELTERED: _____

REQUEST FOR REIMBURSEMENT

In order to expedite request for reimbursement you are required to complete and submit ***itemized*** documentation (all supporting data) that specifies the actual cost per category for each shelter that was used during the Host Sheltering event. Submit itemized data only for those areas for which you may claim reimbursement under the terms of the Agreement.

1) Personnel overtime expense and benefits $_____
2) Personnel expense for loss of ability to provide regular services _____
3) Cost to restore shelter facility to pre-shelter condition _____
4) Cost to direct evacuees to shelter _____
5) Cost of shelter utilities _____
6) Cost of shelter supplies _____
7) Cost of shelter contract operations (if applicable) _____

TOTAL REIMBURSEMENT REQUEST _____

Annex E:
EXTERNAL AFFAIRS

MISSION

A. To maintain, through all available communications media, a coordinated, accurate, consistent, and continuous flow of information and instructions before, during, and after the hurricane to provide the public and elected officials with full knowledge of:

1. The existing situation in the threatened area of the hurricane.

2. The actions being taken by governmental authorities.

3. The actions to be taken by the populace to reduce risks to life and property and to expedite recovery.

4. To provide information regarding return to homes on the part of the populace once the threat has lessened following evacuation.

5. Disseminate information concerning donated goods (i.e., delivery, packaging, etc.) and volunteer needs.

B. Public information is subject to rapid change during the threat of a hurricane and actual occurrence of the hurricane; therefore, all news media personnel and other resources for disseminating public information must be kept informed for maximum utilization.

C. The public might accept as valid rumors, hearsay, and half-truth information that can cause panic, fear, and confusion. Constant monitoring of the media, including the Internet, and quickly correcting inaccurate information is vital.

D. In the event of an announced evacuation because of the impending threat of a hurricane, it is imperative that the public understands the threat and follows the advice of state and local government when an evacuation order is given. Areas to be evacuated include only storm surge inundation areas and residents of mobile homes who may be at risk by exposure to hurricane force winds.

ORGANIZATION

A. When a hurricane threatens the state, the Virginia Department of Emergency Management Public Affairs Office sets up an office in the State EOC, 7700 Midlothian Turnpike, telephone (804) 674-2400.

B. Designated staff personnel other than PAO staff members of VDEM will be added to supplement the External Affair efforts.

C. Designated state agencies (as permitted by the Virginia Emergency Services and Disaster Laws of 2000, as amended, Section 44-146.24, cooperation of public agencies) will furnish professionally-qualified personnel to supplement the External Affairs office.

D. The Virginia Department of Emergency Management will:

1. Receive, compile, and prepare authoritative information on all phases of the hurricane for release to the media.

2. Coordinate the release of hurricane-related information with other agencies of state and the federal government, local governments, and quasi-public relief organizations.

3. Keep the Governor's press secretary informed concerning the existing hurricane situation.

4. Maintain current lists of radio stations, television stations, cable television companies, and newspapers to be utilized for public information news releases.

5. Maintain current contact lists of Congressional and state elected officials.

6. Maintain a briefing room for media representatives in the space provided in the vicinity of the State EOC and at the best location in the area of the hurricane.

7. Prepare news releases for transmission to the media and for handout to media representatives who visit the State EOC or briefing site in the area of the hurricane, or for those media representatives who telephone requesting hurricane-related information.

8. Prepare information for transmission to elected officials. Escort and provide briefings for elected officials who visit the State EOC.

9. Establish and maintain a public inquiry telephone number for the general public who call in order to dispel or clarify rumors.

10. Update the Virginia Department of Emergency Management Website at www.vaemergency.com with the latest information on the hurricane, the response and the recovery.

E. State Agencies

State agencies possessing the capability are to be prepared, on request, to furnish qualified professional personnel to augment the Virginia Department of Emergency Management External Affairs section, per the Virginia Emergency Services and Disaster Laws of 2000, as amended. The Public Affairs Office maintains a list of qualified personnel. State agencies must coordinate their hurricane related news releases and other information pieces with the Joint Information Center.

F. Local Governments

1. Prepare pre-scripted news releases for the broadcast news media, which clearly describe the areas to be evacuated. This should be completed for each contingency or storm scenario.

2. Assist State Coordinator and Regional Coordinators of Emergency Management, or their information officers in the dissemination of public information.

3. Establish procedures for the flow of information to the public regarding the hurricane situation, including providing input to the affected Emergency Alerting System (EAS) radio and/or television station.

4. Maintain lists of radio and television stations, cable stations, and newspapers within the affected jurisdiction including names and telephone numbers of key personnel.

5. Publicize the telephone number of an information officer where official hurricane information and answers to public inquiries can be delivered.

CONCEPT OF OPERATIONS

Information officers at the state, federal and local government levels will take actions, as appropriate, during each phase of the hurricane as outlined below.

A. External Affairs Concepts

1. Localities will prepare and, through the local news media, disseminate the public news releases ordering or recommending evacuation. These news releases should be coordinated in advance with the State EOC.

2. The Public Information Officer (PIO) for the state is responsible for public information news releases relative to state actions during the hurricane threat including information regarding possible evacuations and expected landfall.

3. The state PAO trains other state PAOs as well as other state agency personnel designated as PIOs in the operation of a public information office hurricane disaster team. The State VDEM PAO will conduct annual training sessions for those PIOs designated as PIO assistants in a hurricane emergency.

4. The state PIO makes the announcement to the media, in conjunction with the federal PIO of the opening of the Joint Field Office (JFO) in the affected area once the President has declared the area an official disaster area as a result of damages sustained from the hurricane.

5. Disaster applicants should initiate their request for disaster assistance by use of Teleregistration provided by FEMA. Applicants may acquire additional assistance through the Disaster Recovery Center (DRC). DRC procedures apply to reception, registration and application form/s assistance, as well as an exit interview. To the extent possible, early notification of DRC locations will be prepared and announced through the mutual efforts of the federal and state PAO, with the help of local PIOs. The mutual aid concept is mandatory in all disasters that may befall the Commonwealth.

B. Normal Operations

Carry out a program of public information designed to:

1. Build confidence and goodwill in hurricane preparedness.

2. Educate citizens to warning signals and the importance of hurricane preparedness actions. Identify the difference between a Hurricane Watch and a Hurricane Warning.

3. Increase understanding of individual responsibilities, actions, and duties when hurricane plans are placed in operation.

4. Coordinate emergency public information plans with other emergency programs.

5. Orient Emergency Management staff members, other state agencies and news media personnel on emergency public information policies, plans, and procedures. Conduct briefings for media representatives regarding their role before, during, and after a hurricane.

6. Activate regional or local information centers, as applicable. Open Joint Information Center (JIC) for hurricane emergencies.

7. Conduct an annual hurricane public awareness campaign enlisting the aid of local weather forecasters, as well as the local press to print hurricane evacuation routes and radio and television public service awareness announcements.

C. Increased Readiness

1. Meet with, or send releases to, news media to review emergency public information plans and procedures. Help the media better understand the state hurricane plan and evacuation process, including designated routes.

2. Check radio and television stations to ensure that they can relay or transmit information to the public in the affected area of the hurricane.

3. Releases should prepare the people to:

a. Understand the conditions a hurricane may impose upon them.

b. Understand that plans exist for emergency relief for the state and its political subdivisions especially noting the affected area of the emergency.

c. Understand:

(1) Individual responsibilities, actions, and duties when the plans are placed in operation.

(2) How they will receive emergency instructions.

4. Issue news releases announcing preliminary steps for increasing hurricane preparedness readiness.

5. Meet with, or send information to, elected officials to help them better understand the state hurricane plan and evacuation process, including designated route.

6. Post updated information to www.vaemergency.com and coordinate with the Governor's Web master.

D. Response

1. Relay instructions on measures, which will save lives and minimize property damage.

2. Maintain through all available media, a flow of official news and information to keep the public informed of the hurricane situation.

3. Maintain communication with elected officials to ensure they are kept information of the hurricane situation.

E. Recovery

1. Provide knowledge of:

a. The existing situation in the disaster area.

b. The actions being taken by governmental authorities, and applicable private concerns, to include decisions, recommendations, and instructions.

2. Supervise the dissemination of all survival information and instructions.

3. Include the possibility of unscrupulous contractors who may prey on unsuspecting victims of the hurricane.

4. Designate priorities for news releases.

5. Publish lists of the injured, their location, and the names of known dead as certified by the Virginia Department of Health making certain that every effort has been made to notify next of kin prior to making public their names.

6. Inform the citizens as to where they should go for various types of hurricane relief assistance.

7. Inform citizens in the affected area, as directed, of expected charitable donations and where and when to receive them.

8. Keep elected officials abreast of local, state and federal actions.

9. Inform citizens how to properly volunteer their assistance or donate money, goods or services.

MAJOR DISASTER DECLARED BY THE PRESIDENT

In a Presidentially-declared major disaster, public information concerning federal disaster assistance and the location and operation of the Disaster Recovery Centers (DRC) is the responsibility of the Public Information Officer (PIO) on the Federal Coordinating Officer's (FCO's) staff. The State VDEM PIO and local government Public Information Officers will assist the federal PIO, to the maximum extent possible, in the dissemination of disaster assistance information.

Photographic Coverage

A. Early photographic coverage by the Virginia Department of Emergency Management and the news media as soon as a disaster occurs will assist in supporting the Governor's request for a major disaster declaration by the President should the decision be made to seek federal disaster assistance. Further, in addition to its historical value, such coverage in the national media will provide an indication of the magnitude of the disaster and could prompt an early disaster response by federal and state agencies. The VDEM PIO will make the necessary arrangements for appropriate photographic coverage in the disaster area.

B. When warnings or the actual progression of events of weather phenomena indicate that a disaster of such seriousness as to cause loss of life or major damage to property is likely to, or has occurred, in any part of the Commonwealth, a photographic team will be assembled to proceed immediately to the disaster area.

C. The photographic team will be under the overall coordination of the VDEM Public Affairs Office and will be composed of media representatives from the affected areas and, if available, members of the major wire services, as well as the staff photographic team.

D. State-controlled aircraft from the Department of Aviation will be requested to provide air transportation for the team to the disaster area. If air transportation is not available, state-owned and private automobiles will be used by the team members. The Civil Air Patrol (CAP) will also be used for back-up air transportation when Department of Aviation assets have been exhausted.

SUPPORT

Support agreements - and liaison arrangements with other VDEM staff designated as External Affairs help, state agencies, quasi-government and private cooperating agencies, and the news media will be the responsibility of the Virginia Department of Emergency Management Public Information Officer.

PUBLIC INFORMATION CONCEPT

A. General

Disaster Recovery Centers (DRCs) will be opened as soon as reasonably possible after the entire response team, including Public Information and Outreach, has conducted an intense and effective public education program, which will provide an accurate description of the recovery process. The purposes of the education program are two-fold:

1. Assist those affected in making a more informed decision as to whether they really need to visit a DRC.

2. Enable those visiting a DRC to better understand the application process prior to their visit.

PROCEDURES

A. Pre-Declaration

DHS\FEMA and state PIOs will coordinate their efforts prior to a presidential disaster declaration to minimize confusion and misinformation from the moment the media becomes involved in a potential declaration.

Fact sheets and briefings will be given to elected officials before a declaration to ensure that they fully understand the process.

B. Post-Declaration

1. A state PIO should travel to the disaster area as soon as possible after the federal declaration to promote the recovery process, including the many ways for people to register for federal assistance. This might happen before a JFO is established.

2. A public outreach effort must take place before the first DRC is scheduled to open. It takes time to ensure proper media coverage.

3. The External Affairs Office will ensure that elected officials are aware of planed DRC openings before they take place. Also, they will ensure that elected officials understand the federal assistance process.

4. The PIO in the disaster area needs to provide in-depth and realistic explanations of assistance programs available to include:

    a. Advising applicants to contact their insurance agent and file necessary claims immediately.
    b. Advising applicants that they can register through other means than visiting a DRC. The PIO should stress phone and Internet applications.

    c. Informing applicants that when visiting the DRC they will be required to provide basic information, such as address, telephone number, estimated extent of damage, proof of residence, name of insurance agent, and type of coverage.

    d. Encourage applicants to make a written inventory of their damages and losses for future use.

    e. A visit to the DRC is the initial step in the recovery process. The visit is essentially to obtain information and fill out applications. A delay in processing on the first day can be expected; therefore, a visit on the second or third day might be preferred.

    f. Disaster aid does not assure total recovery from disaster losses, nor is assistance provided immediately.

ACTION CHECKLIST – EMERGENCY PUBLIC INFORMATION

The following operations periods will be used in state and local hurricane plans. The need for coordination precludes the use of different time periods or terminology.

Condition 5: Routine Operations

1. Develop SOPs
2. Establish working relationship with media outlets and local jurisdictions.
3. Prepare and publish general hurricane and protective action information.
4. Prepare pre-scripted news releases as appropriate for different storm categories.
5. Prepare PSAs on hurricane preparedness.
6. Establish working relationship with elected official staff.

Condition 4: Forecasted Arrival of Tropical Storm Force Winds within 120 Hours (D-5 to D-3 Days)

1. Respond to news media queries as needed.
2. Review/revise pre-scripted news releases as appropriate.
3. Notify staff and other state agencies of releases being distributed.
4. Inform elected officials of ongoing and planned activity.
5. Update media and elected official contact lists.

Condition 3: Forecasted Arrival of Tropical Storm Force Winds Within 72 Hours (D-3 Days)

1. Contact DHS/FEMA Region III – coordinate hurricane preparedness information with other states as needed.
2. Begin issuing broadcast PSAs to media and posting on web page.
3. Review/revise/distribute pre-scripted news releases as appropriate.

4. Distribute necessary information to elected officials.

Condition 2: Forecasted Arrival of Tropical Storm Force Winds Within 48 Hours (D-2 Days)

1. Verify/establish JIC location.

2. Check out/verify JIC equipment (phones, computers, fax machines, supplies, etc.)

3. Verify/establish VPIC location

4. Check out/verify VPIC equipment

5. Distribute/issue media advisory regarding ground rules for Emergency Public Information and briefing schedule that might be established.

6. Review/revise/distribute pre-scripted news releases as appropriate.

7. Contact DHS/FEMA Region III – coordinate hurricane preparedness information with other states as needed.

8. Issue broadcast PSAs to media and posting on web page.

9. Distribute information to elected officials as appropriate.

Condition 1: Forecasted Arrival of Tropical Storm Force Winds Within 24 Hours (D-1 Day)

1. JIC is activated and fully staffed.

2. VPIC is activated and fully staffed if directed.

3. Request PDA teams to keep cost and damages figures by county/jurisdiction.

4. Keep DHS/FEMA ERT PIO apprized of storm's potential.

5. Prepare aircraft and video capability to fly storm path and/or coast as soon as possible as safe flying conditions return.

6. Review/revise/distribute pre-scripted news releases as appropriate.

7. Contact DHS/FEMA Region III – coordinate hurricane preparedness information with other states as needed.

8. Issue broadcast PSAs to media and posting on web site.

9. Distribute information to elected officials as appropriate.

Landfall (Arrival of Tropical Storm Force Winds - Departure of Tropical Storm Force Winds)

1. Coordinate DHS/FEMA ERT – JIC PIO staffing.

2. JIC is activated and fully staffed.

3. VPIC is activated and fully staffed if directed

4. Monitor news media for storm information.

5. Prepare/distribute media advisory on response activities in the impacted areas.

6. Conduct live media briefings with local and national media.

7. Distribute information to elected officials as appropriate.

8. Contact DHS/FEMA Region III – coordinate hurricane response and recovery information with other states as needed.

9. Coordinate with Governor's press office for tour of impacted area for Governor.

Emergency Relief Phase (Life-Saving Operations and the Restoration of Essential Services)

1. JIC is activated and fully staffed.

2. VPIC is activated and fully staffed if directed.

3. Monitor news media for storm response and recovery information.

4. Prepare/distribute media advisory on response activities in the impacted areas.

5. Contact DHS/FEMA Region III – coordinate hurricane response and recovery information with other states as needed.

6. Distribute information to elected officials as appropriate.

7. Begin preparations for transition to a Joint Field Office – equipment and staffing.

8. Continue live media briefings with local and national media as long as necessary.

Note: Although coastal localities and the State EOC will be using these hurricane-specific operations periods, others, to include inland host localities, will not. They do not have separate hurricane plans and will be using the standard operations periods. (Reference the State EOP.) However, the two checklists are not incompatible. If reference is made to the "hours before the arrival of tropical storm force winds," local officials in inland localities can make it work within the context of their own checklists.

Attachments
1 – Joint Information Center
2 – Community Outreach Program

Annex E, Attachment 1
Joint Information Center

PURPOSE

A. Protection of the public health and safety in the event of a catastrophic emergency such as a hurricane imposes upon state, local and federal government the responsibility to provide complete, accurate, timely, appropriate and understandable information to the public.

B. An effective Emergency Public Information Program requires cooperation and advanced planning among potential emergency response organizations. Recognizing the unique and separate responsibilities and jurisdictions of the organizations involved in emergency response, the planning and actual response efforts must emphasize interagency cooperation and coordination.

GUIDANCE

A. The overriding concept of the Joint Information Center (JIC) is that it recognizes that each of the individuals represented at the JIC may continue to represent his/her own agency, while at the same time receiving the benefits of a coordinated public information approach. This principle is embodied in and represented by the Senior Coordination Group, the roundtable of senior public information professionals present at the JIC.

B. A second benefit of the JIC is that it can result in the pooling of assets so that each individual agency will have far greater resources available than if they were functioning alone.

C. If the JIC concept is implemented effectively, the public will receive accurate, thorough and timely information with less risk of conflicting statements.

CONCEPT OF OPERATIONS

A. After a catastrophic hurricane, it is expected that all normal means of communications in the affected areas would either be demolished or largely incapacitated. Therefore, only limited and incomplete information is anticipated from the disaster area until communications can be restored.

B. The effective utilization of this time period, however, is critical in setting up the large and complex public information mechanism that will be needed to respond to the emergency public information and news requirements for a disaster of this magnitude.

C. While more than one news center may be established, there will be only one main coordination and release site at any given time during the post-disaster response period to assure accurate and timely dissemination of all information to the public, as well as to the media. To the maximum extent possible, federal, state and local information will be coordinated prior to its release.

ORGANIZATION AND FUNCTIONS

A. The Virginia Department of Emergency Management (VDEM) will open and begin staffing the JIC 48 hours before a hurricane is to make landfall. The JIC will usually be located in the Virginia Emergency Operations Center. Media Information and Public Inquiry/Rumor Control centers will be staffed and set up with phones and other appropriate equipment. Other state agency public information staff will be called in or placed on alert.

B. Unless otherwise stated, the JIC will be staffed to operate around the clock with two 12-hour shifts.

C. If any pre-deployment of state or federal officials to the potential hurricane landfall area occurs, a small PIO contingent will locate there to link Richmond JIC with near-site PIO staff.

D. As soon as possible after hurricane landfall, a federal, state and local JIC will open near the disaster area. This JIC will likely be located within or adjacent to the Joint Field Office.

E. It is state policy to encourage full participation in the JIC by federal, state, local, voluntary and private responding organizations. However, if this is not feasible, all organizations are encouraged to coordinate their information activities with the JIC.

F. The primary organizational elements of the JIC will be centered around divisions responsible for:

1. Information Gathering and Production, i.e., gathering, editing and producing information products for dissemination by the JIC in various forms suitable for use by print, broadcast, and other media.

2. Information Dissemination, i.e., disseminating information to various media through various means, including briefings, news releases, interviews, appearances before groups, etc.

3. Senior Coordination Group, i.e., a group comprised of the senior public affairs representatives from each JIC member agency. This group comes together from time to time to help guide the policies of the JIC, and to help coordinate significant JIC activities such as briefings.

4. Administrative and Logistical Support.

G. Each person representing a JIC member organization will function in two capacities:

1. Represent his/her agency in carrying out the public affairs mission of that agency; and

2. Provide public affairs services for the JIC in support of the various JIC missions.

H. The primary functions of the on-scene JIC are to:

1. Provide response and recovery information to individuals, families, businesses and industry directly or indirectly affected by the disaster. Information will be provided through the news media and other means. Emergency information will be provided as required during the recovery phase, including use of an outreach program. Emergency information will primarily originate with state and local authorities.

2. Coordinate state information prior to release, and ensuring it, in turn, is coordinated with information released by local and federal governments and voluntary organizations.

3. Process information requests from local, regional, national and international media regarding the scientific evaluation of the event and the governmental response.

4. Hold news conferences and briefings regularly to give the media access to the facts and to experts helping with recovery operations.

5. Handle VIP briefings and tours.

6. Provide basic facilities, as necessary, such as communications, office space and supplies, which would assist the news media in performing their role as disseminators of essential information to the public. Such facilities will be provided as long as the State Coordinating Officer determines them to be in the public interest.

7. Provide a public inquiry/rumor control function to curb false information from wide circulation. Work with the media to halt rumors by disseminating the facts.

RESOURCE REQUIREMENTS

Details on personnel, communications, equipment, supplies, etc. are included in the VDEM Public Information Standing Operating Procedures (SOP).

Annex E, Attachment 2

Community Outreach Program

This is a DHA/FEMA program designed to inform the disaster-affected community of the assistance available, where it will be provided, and when and how to apply for it. Outreach needs to reach the public in the disaster area well in advance of opening the Disaster Recovery Centers (DRCs). Emphasis is placed on providing information to those individuals who are affected but cannot get to a DRC. The program is a measure of how well the disaster response is meeting the needs of the public and solving their problems. Outreach provides special attention to isolated areas and groups, such as the elderly, handicapped, minorities, and those with linguistic problems. Methods of reaching the public in the affected area are through use of mass media, toll-free "hot line", town meetings, personal contact, contacting local officials and representatives of civic, service, or religious organizations, and by posting of notices and distribution of fliers. The fliers may be mailed, posted, or delivered to selected businesses, churches, post offices, and residences along secondary and rural roads. The fliers should be mailed, posted, or preferably hand delivered to the immediate area affected by the disaster. Fliers will be prepared jointly by the DHS/FEMA and VDEM PIOs.

Everyone connected with the disaster response and recovery effort should be aware of activities in the disaster area and be prepared to perform community outreach functions. Generally, however, two Community Outreach Teams will be established in the affected area. Each Team is composed of a federal representative and a state representative. The state representative will be nominated by the State Coordinating Officer. The information gathered by individuals involved with outreach activities assist the FCO and SCO in anticipating areas, which need their attention while also supplementing the public information effort.

Annex F:
EMERGENCY RELIEF AND RE-ENTRY

MISSION

To quickly evaluate and assess the immediate human needs (food, water, health/medical, and housing) and the operational status of vital community infrastructure (transportation, communications, and utility systems), and then, to assist impacted localities restore their essential services as soon as possible and to plan for and implement, if possible, an appropriate return of evacuees to their homes.

ORGANIZATION

Each locality is responsible for conducting its own immediate needs assessment. This assessment will determine if the locality is safe to permit reentry of resident, property/business owners. However, state and federal assistance is also available to assist or, if necessary, to conduct such an assessment. State participation will be coordinated by VDEM and federal participation by DHS/FEMA.

CONCEPT OF OPERATIONS

A. Return to the Risk Area

1. The decision of when to permit residents to return to the risk area, after a hurricane has passed, will be made cooperatively between the State EOC and localities in the impacted areas. This plan is not intended to replace any locality specific reentry plans or procedures. The decision to allow reentry will be based on an overall evaluation of the situation, including the following major factors:

    a. Access - Following a major event an aerial survey of the impacted areas should be conducted immediately to identify and prioritize the most seriously damaged areas of the locality. This can determine the level of damage to major routes into the area and help to determine the time for debris clearance from those routes.

    b. Water levels - Have floodwaters receded from most of the area?

    c. Public health - Are water and sewer services operating properly?

    d. Subsistence - Is food available or can it be made available in the impacted area?

e. Utilities - Are electricity, telephone, and natural gas services operating or when can they be made available in the risk area?

f. Can existing services support the people already in the impacted area as well as an additional influx of people?

2. Once the decision to permit reentry has been established law enforcement personnel should set up checkpoints and roadblocks as needed based upon the level of damage that has occurred. Reentry can proceed as recommended based upon a Phased Reentry. Phased Reentry can limit primary access to essential personnel and help to manage the number of people entering the disaster area.

   a. Phase A – Phase A allows the reentry of agencies and groups that play key roles in restoring normal operations in the impacted area following a disaster. Law enforcement personnel should restrict access during this phase to provide for area safety and security. Phase A agencies and groups may include, but are not limited to, the following:

      (1) Search and Rescue Agents

      (2) Infrastructure and Utilities Repair Personnel

      (3) Official Damage Assessment Teams

      (4) Other personnel at the direction of the local EOC

   b. Phase B – Phase B allows for the limited reentry of other critical groups as well as residents and business owners. The local EOC in coordination with public safety personnel should determine when it is safe to begin Phase B entry. Phase B groups may include, but are not limited to, the following:

      (1) Relief Workers

      (2) Health Agencies

      (3) Insurance Agents

      (4) Residents and Business Owners/Operators

3. If the impacted areas cannot support the return of evacuated residents, temporary housing may be established in non-impacted areas near the disaster areas. State and local authorities in accordance with the State Disaster Recovery Plan will make decisions on the location and operation of temporary housing facilities.

4. In the event of a major disaster declaration, a Joint Field Office (JFO) will be established in or near the affected area. Federal and state officials will work from this facility to support disaster response and recovery operations. See the State EOP, Vol. 2: Disaster Recovery Plan.

B. Checkpoints

1. Local law enforcement officers should be primarily responsible for establishing and staffing checkpoints for reentry into their locality.

2. In order to expedite the reentry process, an Identification Verification Area (IVA) should be established close to each checkpoint for people with questionable identification. Every effort should be made to ensure that residents return to their homes as soon as safely possible. Law enforcement may limit the flow of returning traffic to better manage the checkpoints.

C. Identification Procedures

1. Identification procedures are intended to provide guidance for law enforcement personnel who may be directing access to disaster-impacted localities.

2. Residents, relief workers and business owners should have proper identification, such as a driver's license or company ID card, to enter an impacted area. Other documents to consider in establishing a right to enter may be utility bills, property tax receipts, car registration, and other legal documents presenting an address for verification.

D. Roadblocks

1. The strategic location of roadblocks is an important part of the reentry process. Roadblocks can be utilized to seal entry points into devastated areas for two main reasons.

2. Roadblocks can be used to prevent mass entry of the civilian population, which can clog rescue routes for people in the impacted areas who may require medical attention.

3. Roadblocks are a method to help curtail acts of unlawfulness such as looting.

E. Curfews

Localities may initiate curfews as a crime prevention measure depending on the intensity of the disaster and the level of damage sustained. The decision to implement a curfew and its duration rest with the local governing body.

F. Contingency Planning for a Minor Hurricane

1. A major Category 3 or greater hurricane, involving a large-scale evacuation with thousands of private vehicles moving inland, is the contingency upon which this plan is based. However, an appropriate response to a lesser storm must also be prepared. With a Category 1 or 2 hurricane, potential storm inundation areas will be smaller and the resulting number of evacuees and persons seeking public shelter will be more manageable locally. Special provisions for mass relocation inland and regional traffic control may not be needed.

2. Information to identify persons at risk from smaller hurricanes and to identify potential public shelters is also available in the Virginia Hurricane Evacuation Study. Low-rise public buildings or churches located inland, which may not have been suitable for major hurricanes, may be suitable as public shelters for minor hurricanes. Structures with extended beam roofs such as gymnasiums, or school classrooms with large areas of glass windows that could collapse or break during high winds, should not be used.

G. Contingency Planning for a Major Hurricane without Evacuation

1. The worst-case scenario would be a major hurricane accompanied by conditions, which preclude a large-scale evacuation. Such conditions could be caused by any number of factors to include an extremely fast-moving or suddenly shifting major hurricane, flooded routes of egress, or a delayed decision to evacuate.

2. First, evacuate residents that live in potential storm inundation areas and mobile homes. Public safety personnel should be designated and trained to effect such an evacuation. Second, residents that do not live in storm inundation areas or mobile homes should be advised to shelter in-place during the storm and be prepared to be self-sufficient for several days. Buildings designated as public shelters should be capable of withstanding hurricane wind loading conditions.

3. After the hurricane passes, pre-selected large facilities should be designated as "congregate care centers" from which water, food, locator services, emergency medical care, and other essential services can be provided to persons displaced from their homes by the storm. Local EOCs will coordinate with the State EOC to arrange for the provision of these services as needed within 12 hours of the passing of the storm. To the extent possible, back-up power generators, a potable water supply, back-up communications, EMS units, port-a-potties and other essential items should be pre-positioned at designated congregate care centers 24 hours before the arrival of the storm. Although public school facilities may be suitable, the resumption of normal school schedules and activities may psychologically be a much-needed part of returning the community to normal.

4. Following a major disaster such as Hurricane Katrina or Rita, substantial federal disaster relief manpower and equipment resources will be available. Contingency planning and coordination to facilitate the prompt set-up and delivery of these services will be critical.